Merit-Based Incentive Payment System

Project Walkthrough

THE CONTEXT

What is MIPS?

The Merit-based Incentive Payment System (MIPS) is a new way by which eligible clinicians will be measured by U.S. Dept. of Health Services to determine if they are providing quality patient care in an efficient way.

Indiana University Health wanted to build an online platform for physicians & healthcare advisors where they can **report & track their performance** efficiently thereby reducing a lot of administrative burdens.

The Team

An 8 person multidisciplinary team was formed which consisted of:

- 1 Domain experts
- 1 Researcher
- 4 Developers
- 1 Project Manager
- 1 UX Designer

My Role

I worked as the **Team Lead** and **UX Designer** on this project. My responsibilities included:

- Conduct user interviews & observations
- Facilitate ideation & design decisions
- Sketching, wireframing and prototyping
- Front-end dev & collaborate with other devs
- User testing and evaluation sessions

PROBLEM STATEMENT

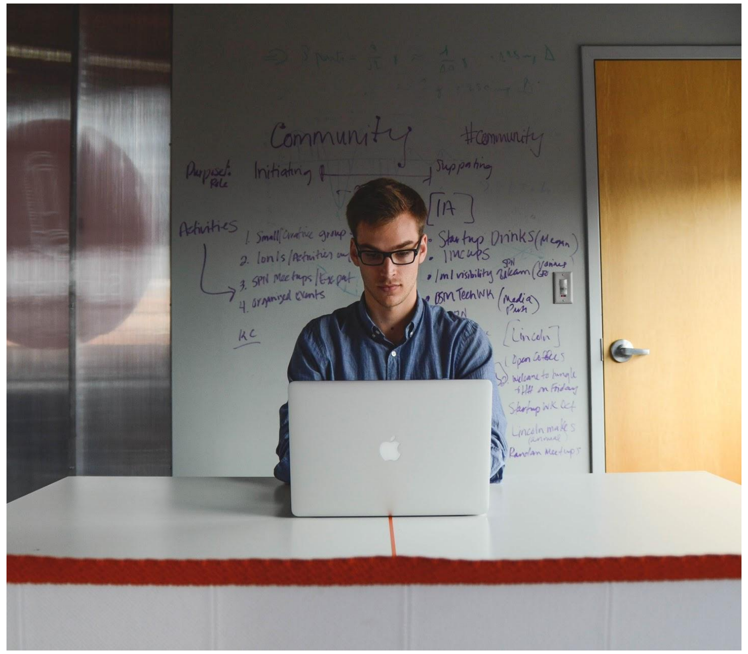
The Challenge

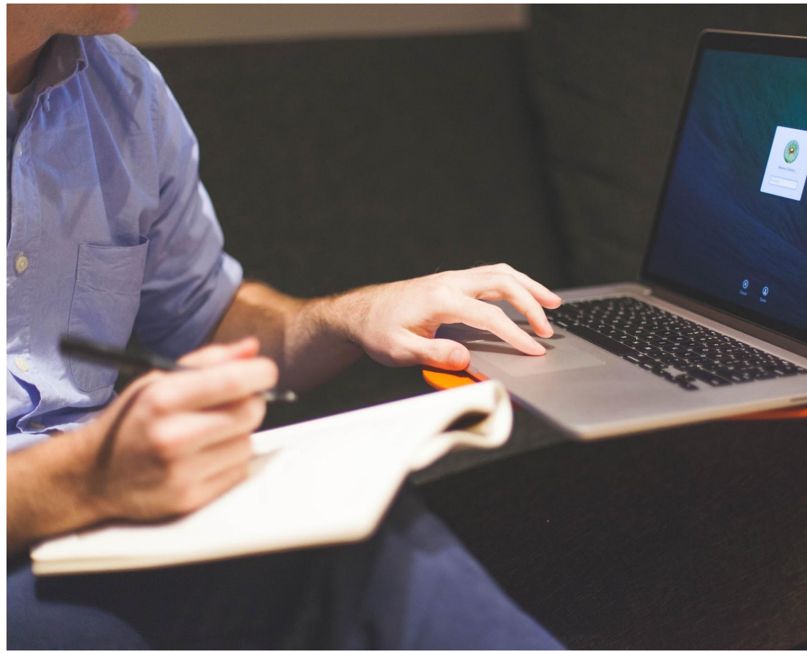
Create a web based portal to provide an opportunity to revise, rework and improve the data reporting system and reduce the overall administrative burdens for physicians and advisors.

TARGET AUDIENCE

Who are Users?

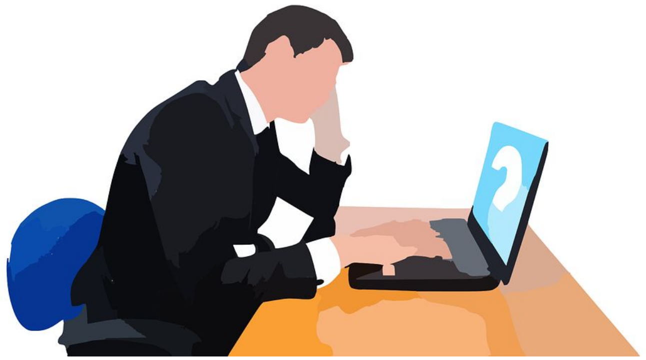
- The users of this tool are **Quality Improvement Advisors (QIA)**.
- QIA's acts as an internal consultant and resource to a health organization with the goal of driving improvement in quality, cost efficiency and patient satisfaction.
- They gather, compile and analyze clinical reports, identify gaps / strengths & make appropriate recommendations for corrective actions.





CURRENT SCENARIO

Meet Richard



COLLECT DATA

Richard is a healthcare advisor in a hospital. His job is to collect data from physicians, manage data, and derive meaningful insights.

CALCULATE SCORE

He then calculates a performance score based for each physician and shares the score with hospital administration.

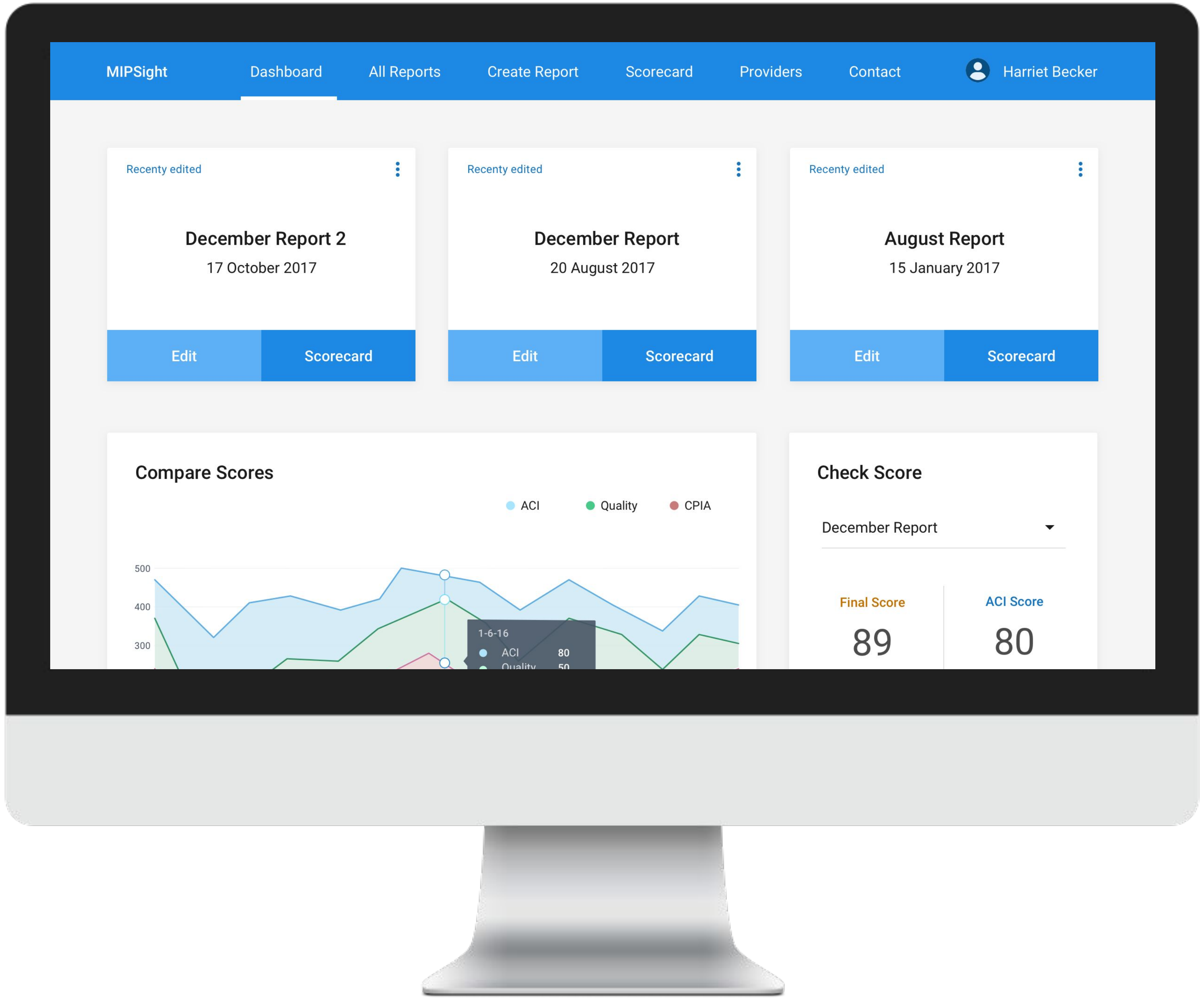
GIVE RECOMMENDATION

If the performance score is low he has to go to the physician and recommend them about things they can do to improve their score.

FINAL OUTCOME

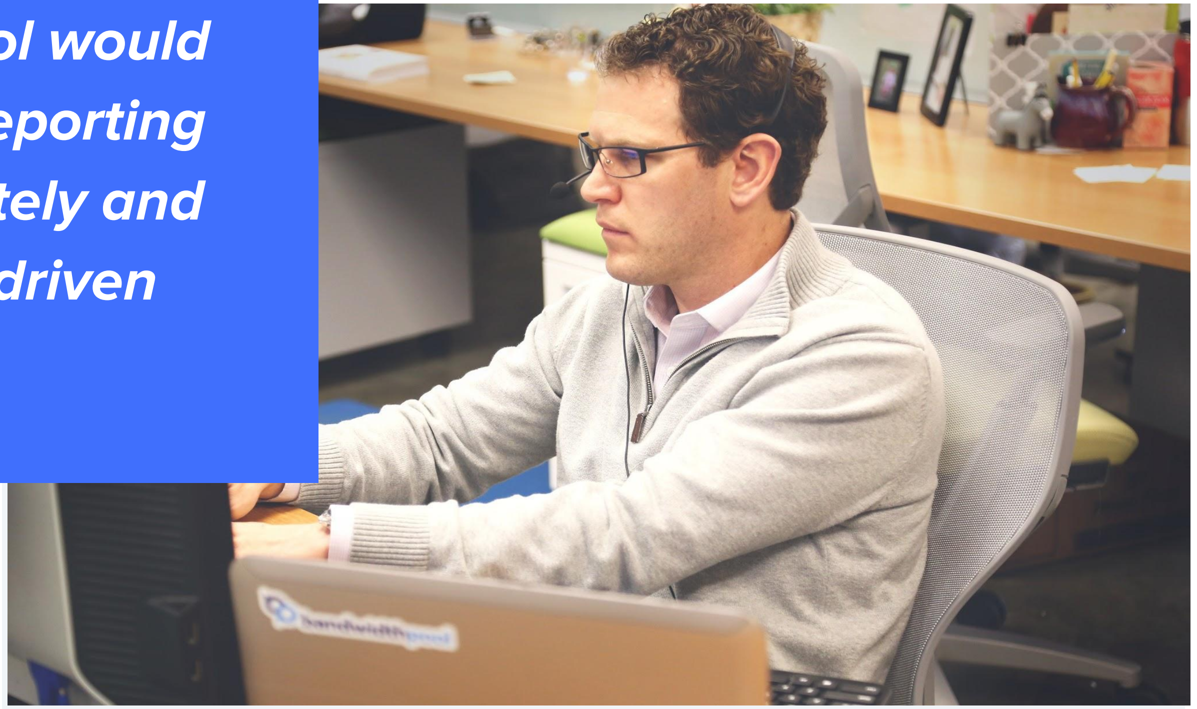
The Solution

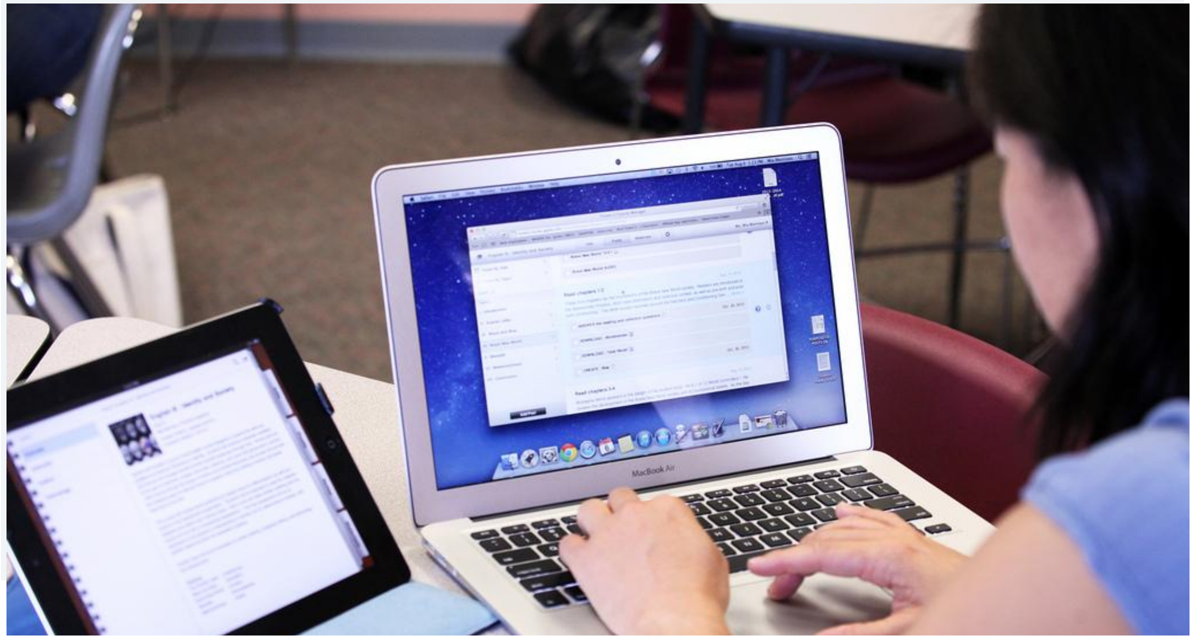
A customizable web based application which can record data, generate scorecard and conduct what-if analysis to save time and provide meaningful insights.



QUOTE

"An ideal tool would help me in reporting data accurately and taking data driven decisions"





BUILDING EMPATHY

Interviews + Observations

We interviewed and observed four Quality Improvement Advisors from different health organizations such as IU Health, Purdue Health etc. Some of the questions were:

- What are your major tasks?
- How do you report & analyze data?
- What are the major problems faced?
- How does collaboration happen?
- What tools do you currently use?

RESEARCH INSIGHTS

What we learned?

01 QIAs mainly use **MS Excel spreadsheets** to enter data and **frequently edit** values in the tables to compare their scores

02 They want to see the results in a concise and **visual format** which is easy to understand, share and explain to other stakeholders & providers

03 QIAs want to **quickly find** relevant data and practises from several others in the assessment list. They want a way to **organize** previous reports.

04 Due to the complexity of process and calculations they often **fail to complete** & deliver meaningful analytics reports on time.

RESEARCH INSIGHTS

Problems to Solve

We brought together our research data and created high level themes into which the major challenges faced by the QIA's fell under.

.01

Long reports and high error rates

.02

Tedious process to analyze the data

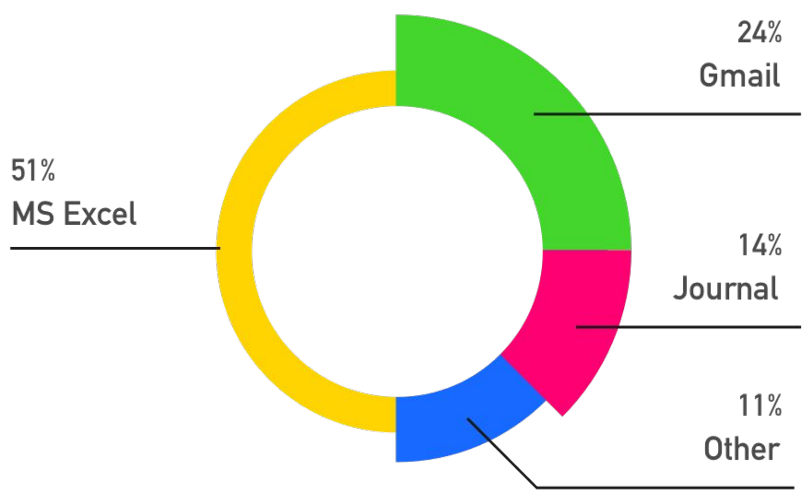
.03

Organizing & searching data in reports

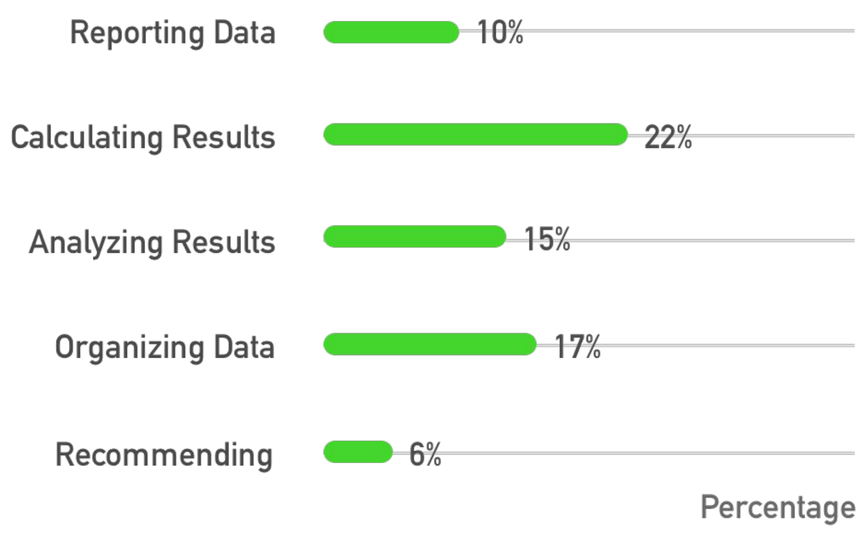
.04

Time consuming calculations in Excel

Tools Currently Used



Most Time Consuming Tasks



DESIGN DECISIONS

Selected Features

.01

Dashboard

A dashboard which shows all the important and frequently used features at one place to help users navigate faster

.02

Visualizations

Showing meaningful visualizations for the user to glance and understand the reports in an much efficient way

.03

Organize Reports

Create new reports and save previous ones at one common place to search and compare anytime they want

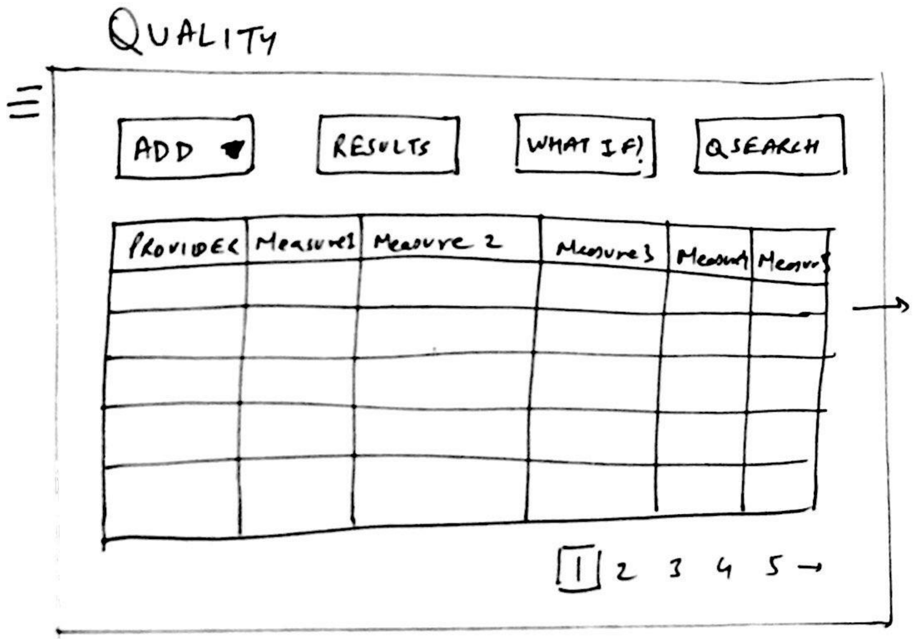
.04

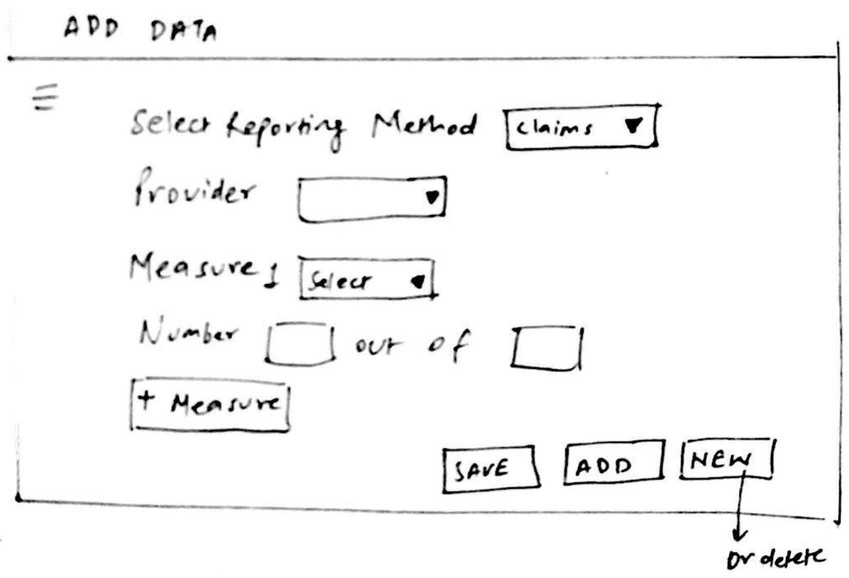
What-if Analysis

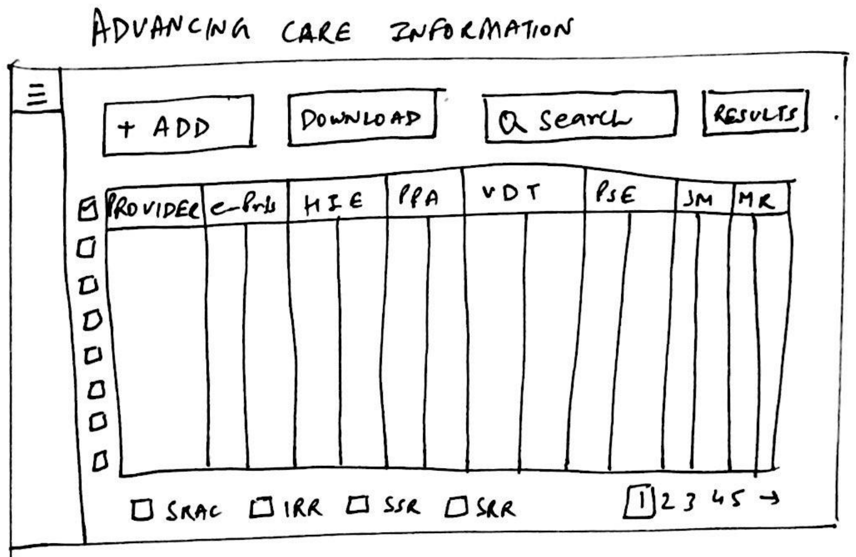
Give users opportunity to rework and check different scores without affecting the original scores in the report

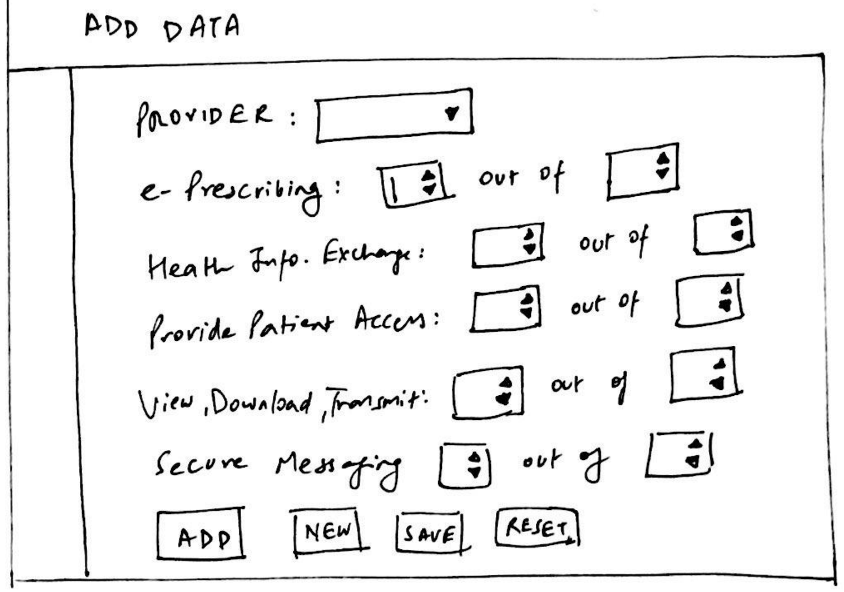
EXPLORATION

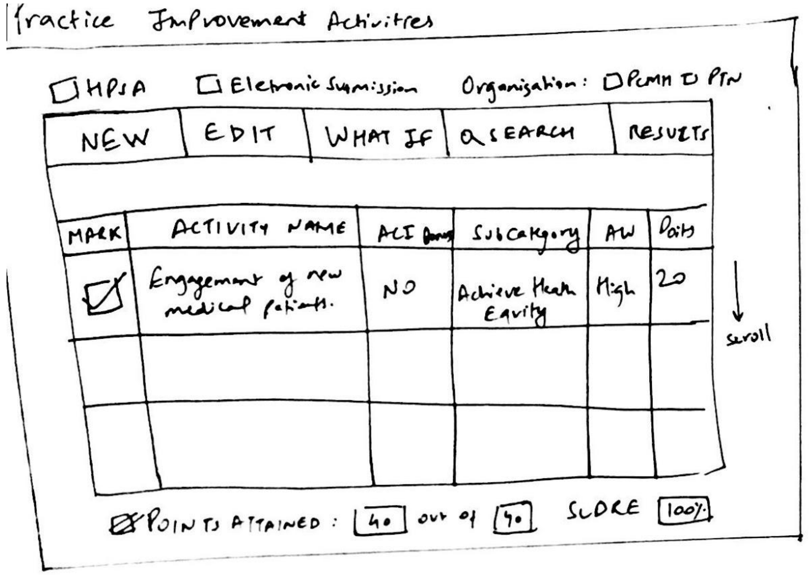
Sketching

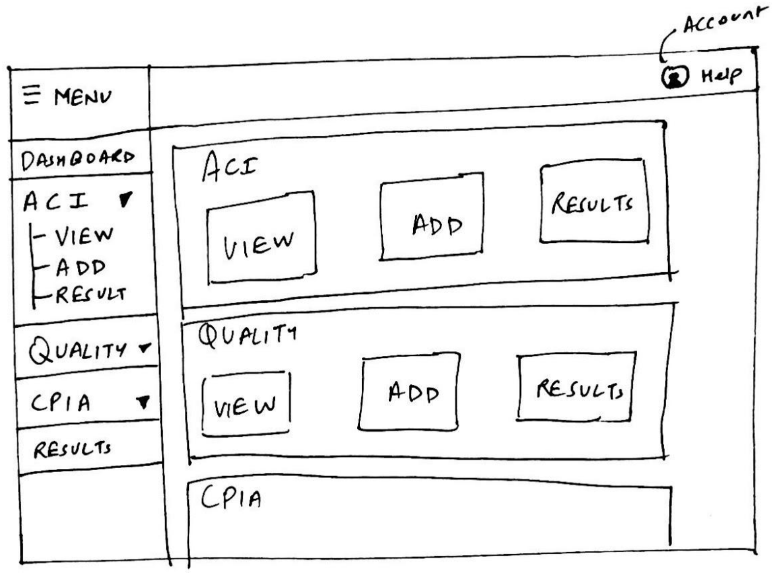




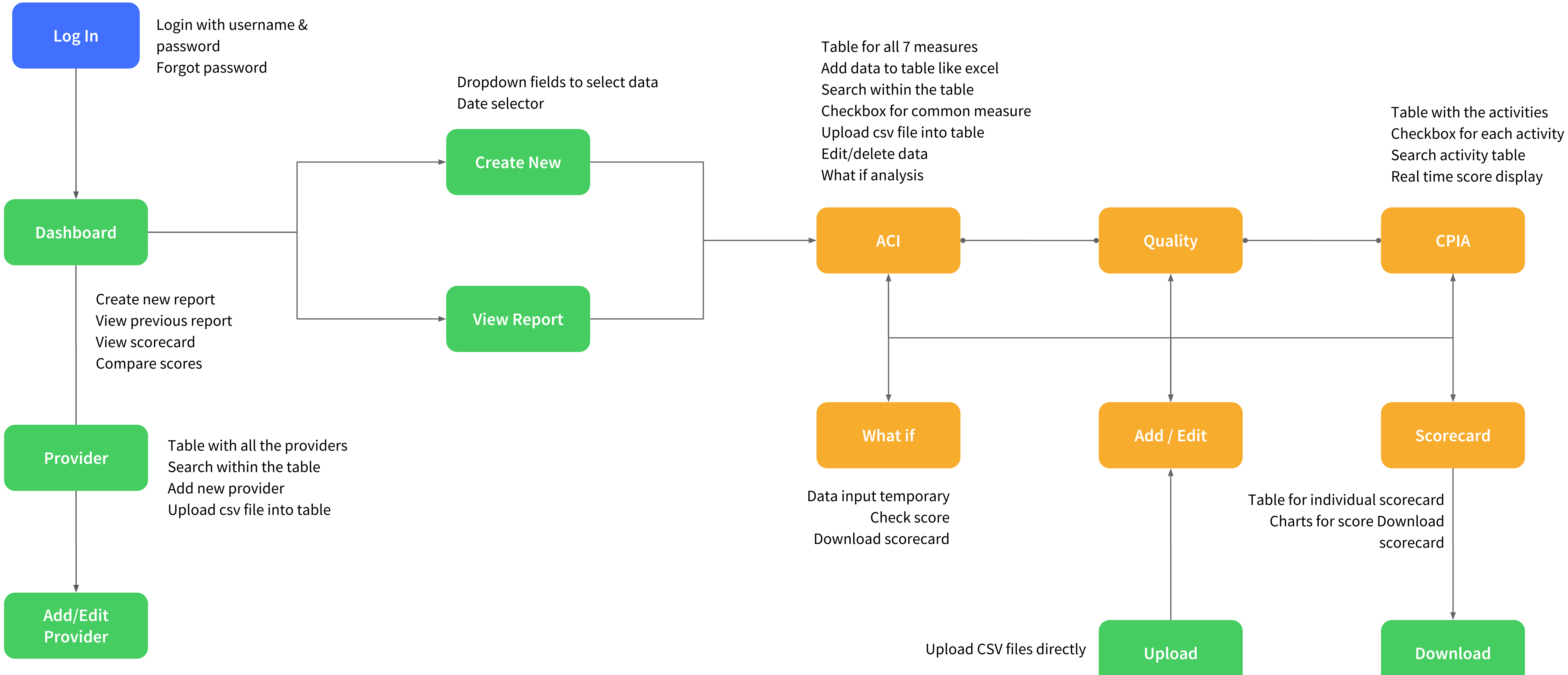








Flow Diagram

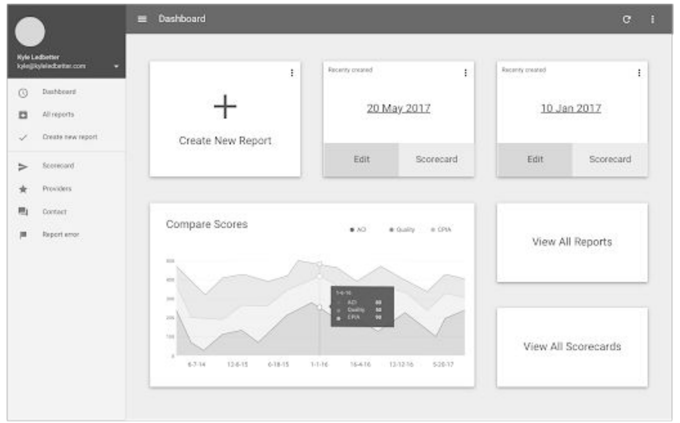


MIPS Task Flow Diagram: Users

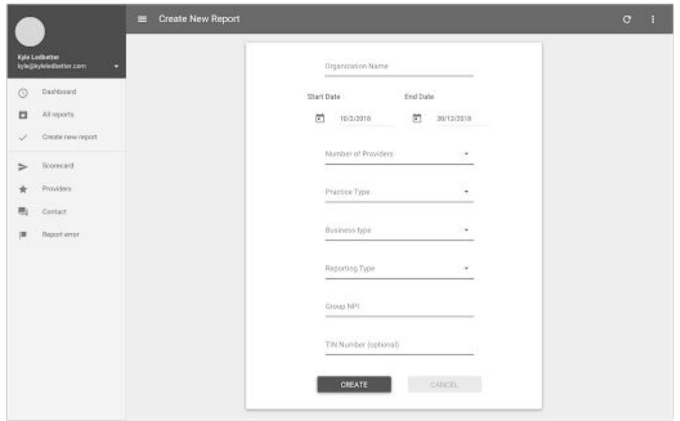
LOW FIDELITY DESIGN

Wireframes

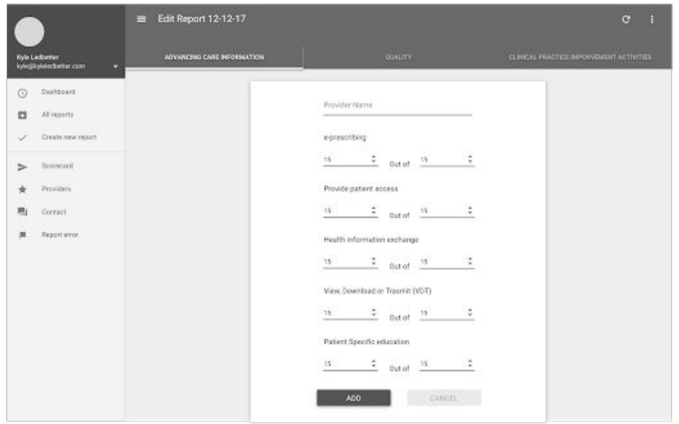
1.1 Dashboard



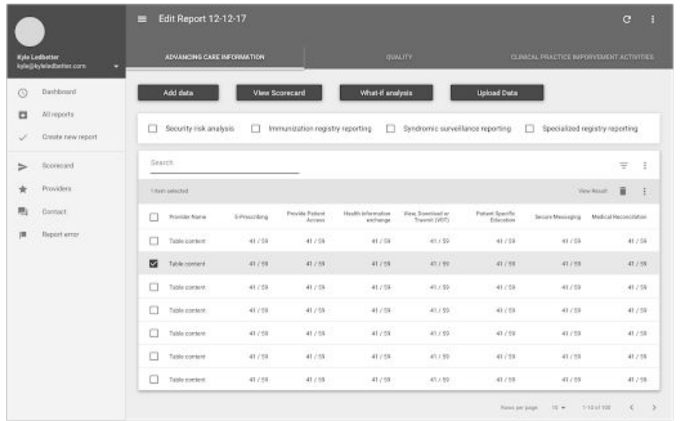
2.1 New Report



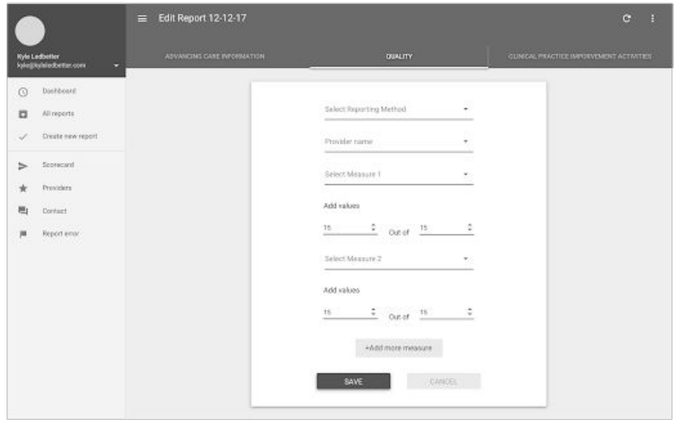
2.2 Add ACI



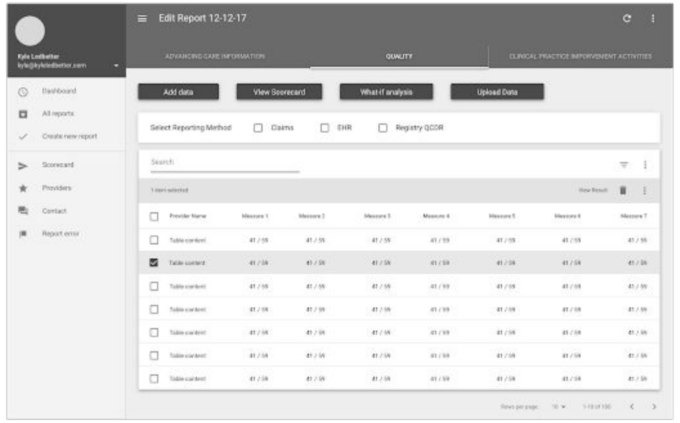
3.1 View ACI



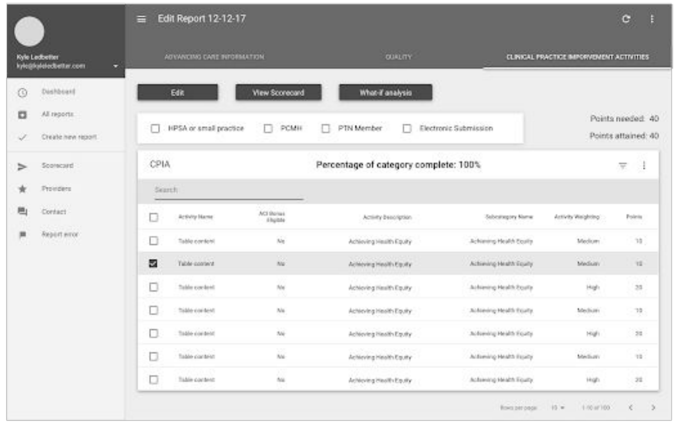
2.3 Add Quality



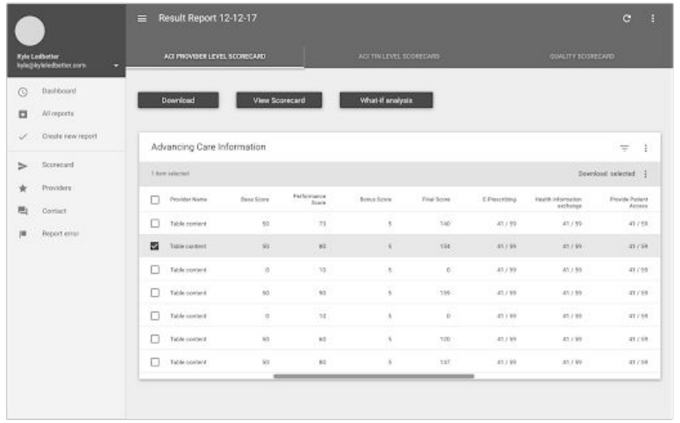
3.2 View Quality



2.4 View CPIA

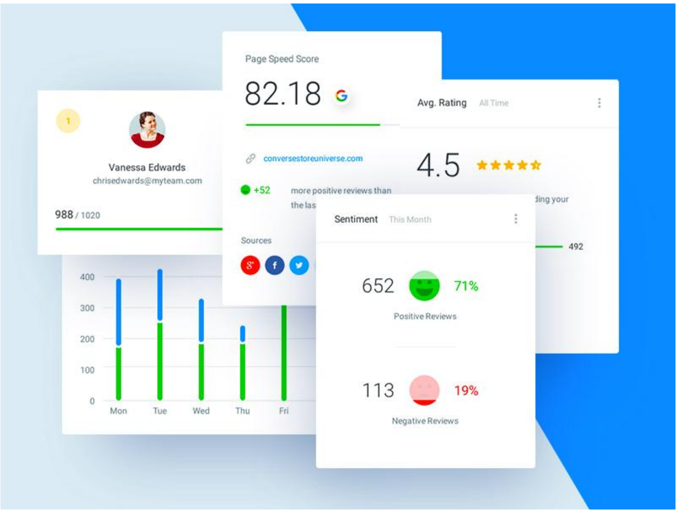


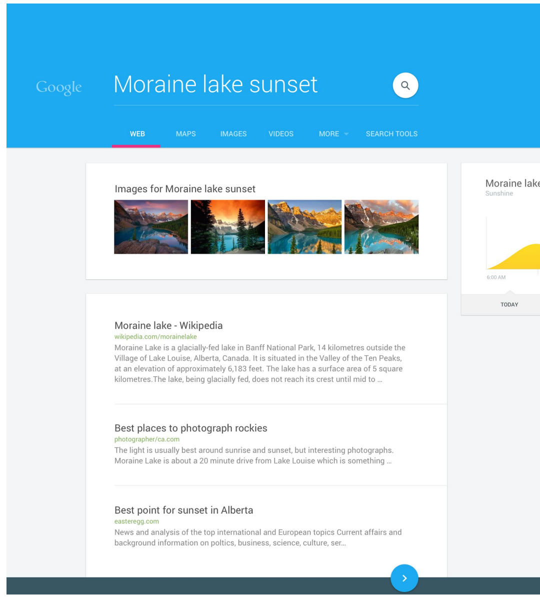
4.1 View ACI Score

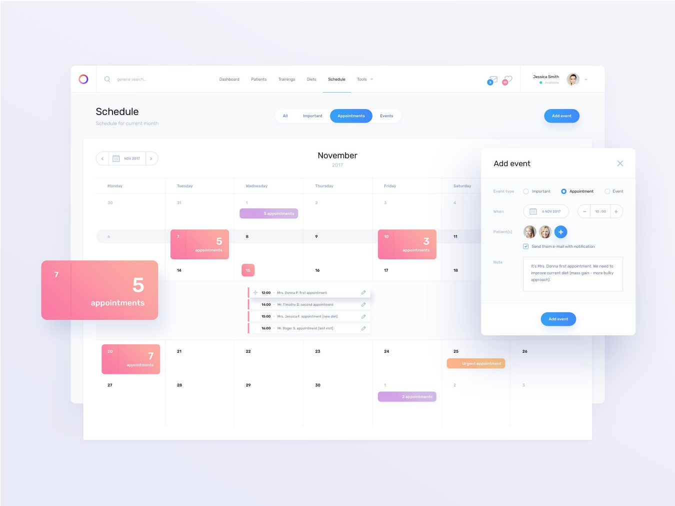


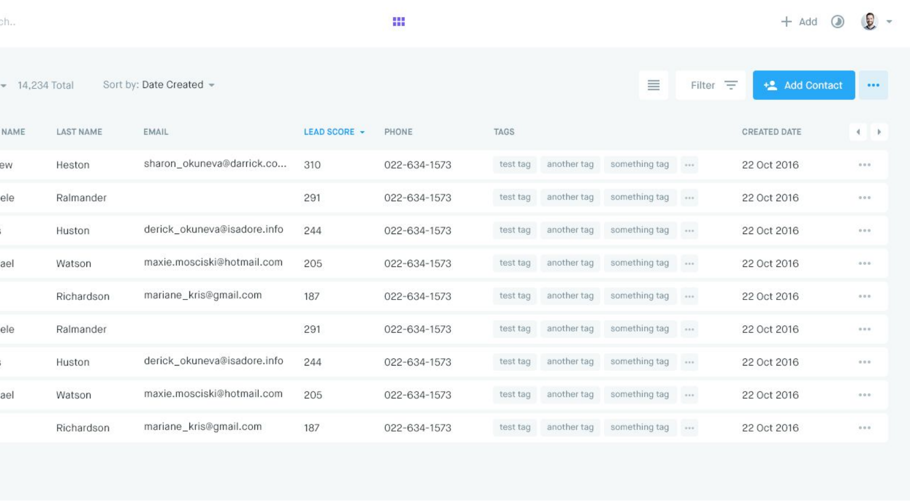
MOODBOARD

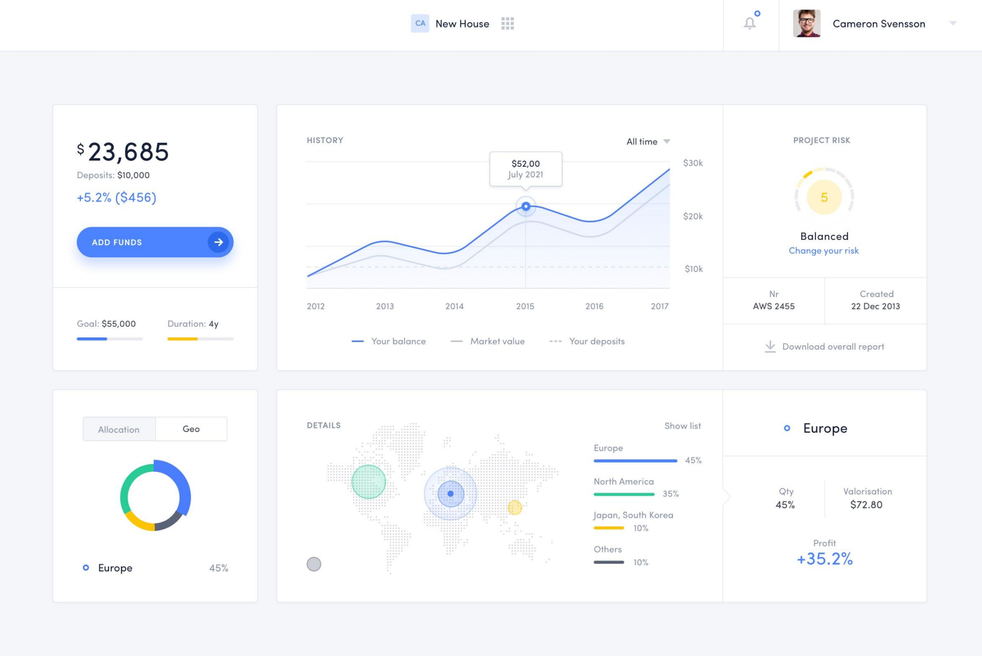
UI Inspiration

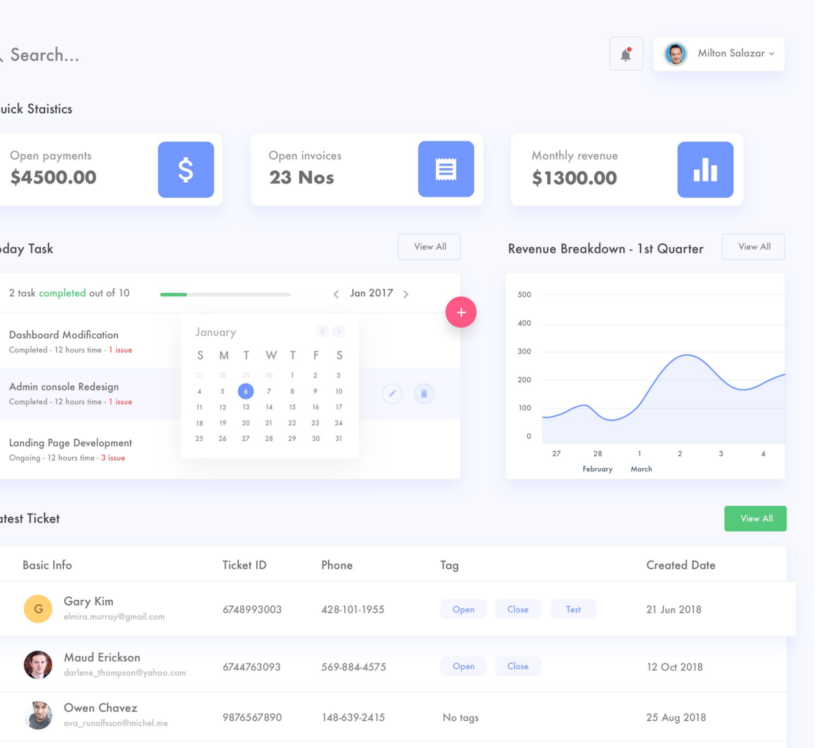


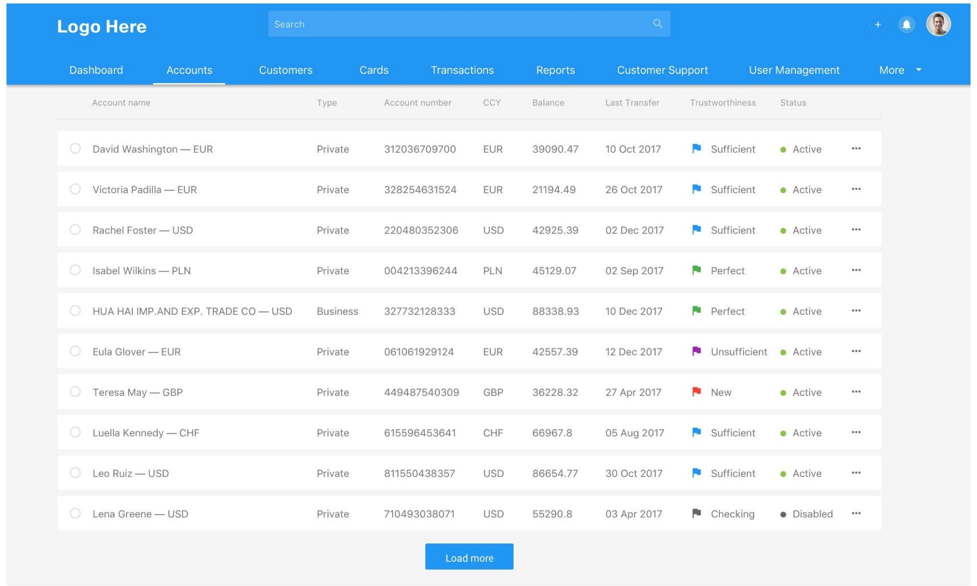


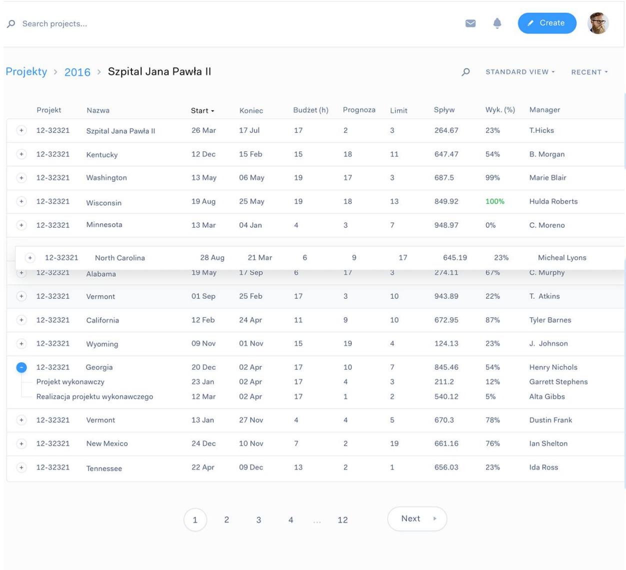


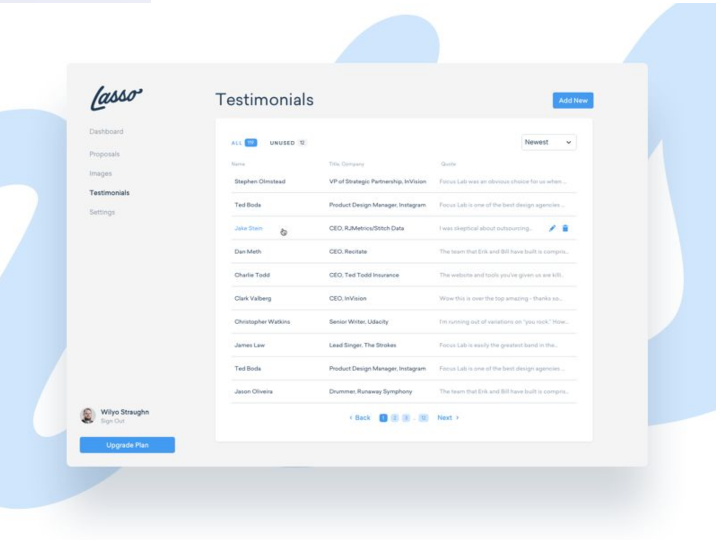












Style Guide

TYPOGRAPHY

H1 Roboto 48px

H2 Roboto 36px

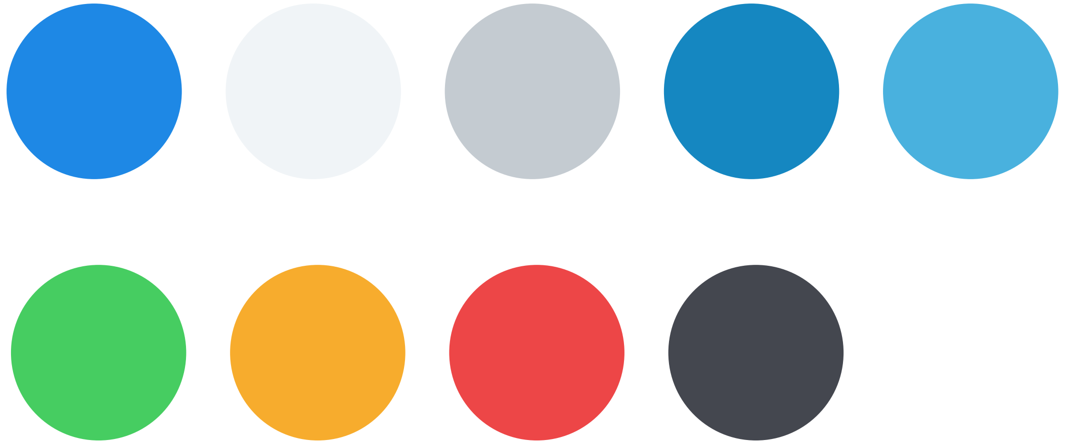
H3 Roboto 24px

H4 Roboto 18px

Body Text Demo

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

PALETTE COLORS



PRIMARY BUTTON

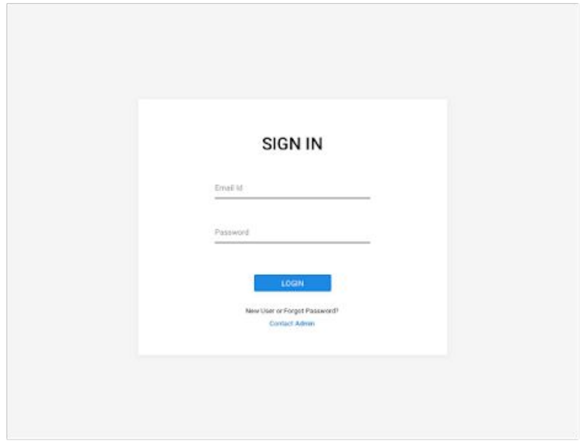
DEFAULT BUTTON

SECONDARY BUTTON

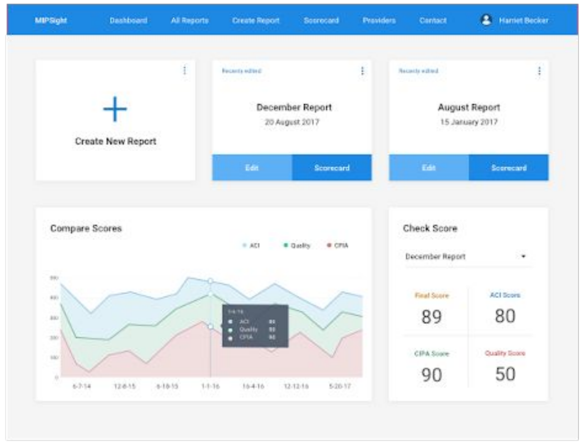
MUTED BUTTON

HIGH FIDELITY

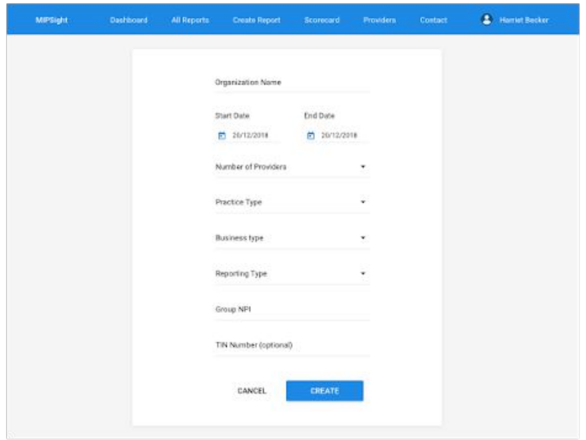
Visual Design



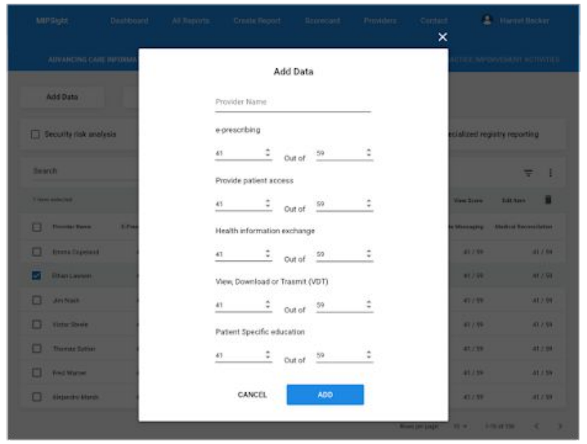
1. Sign In



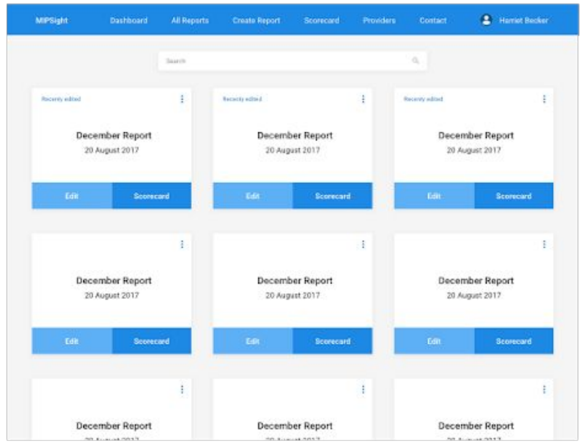
3. Dashboard



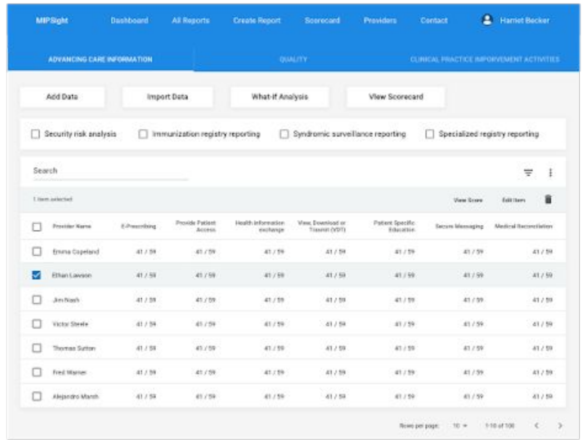
4. Create New



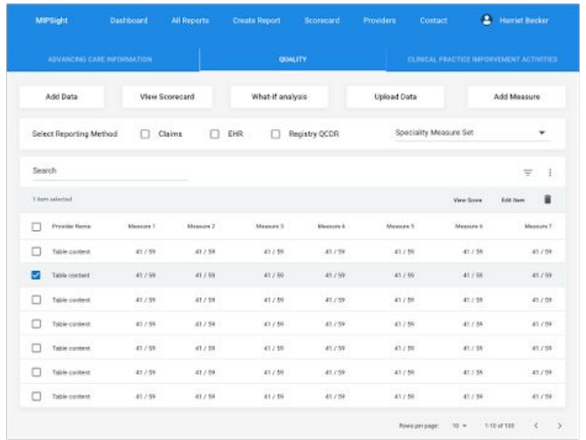
2. Add ACI



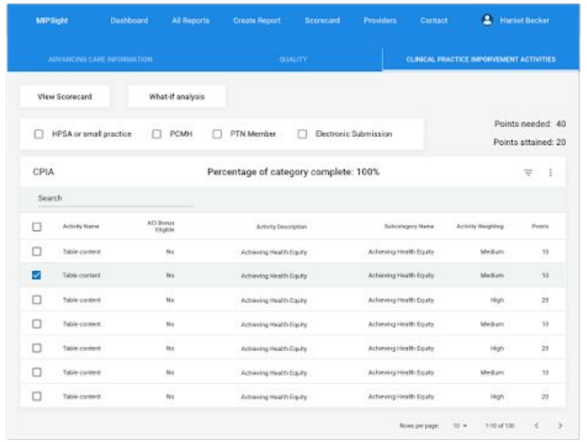
5. All Reports



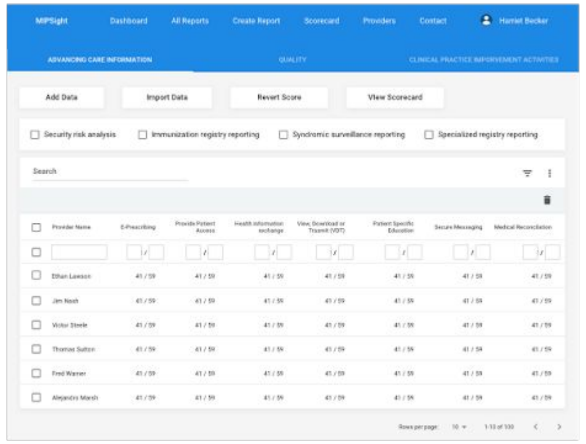
6. View ACI



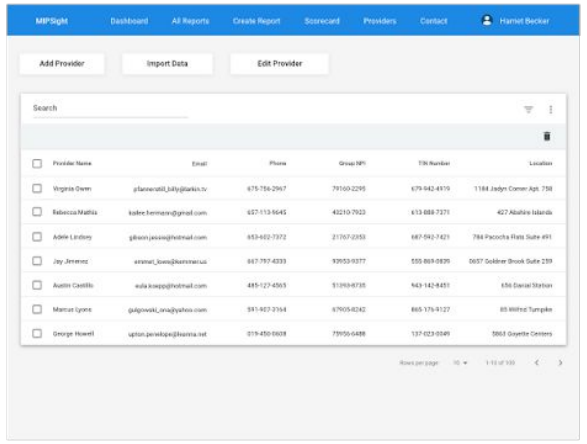
7. View Quality



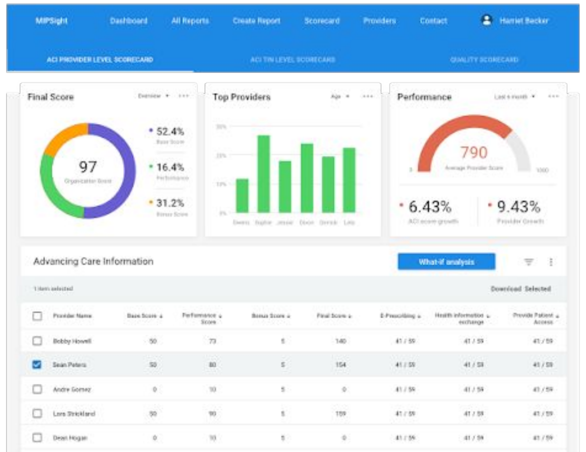
7. View CPIA



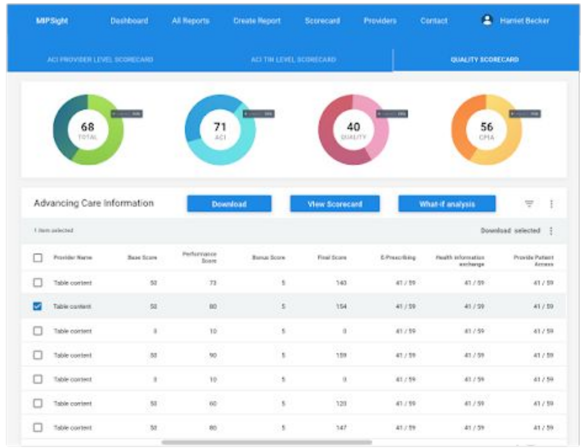
9. What-if Analysis



10. View Provider



11. ACI Report

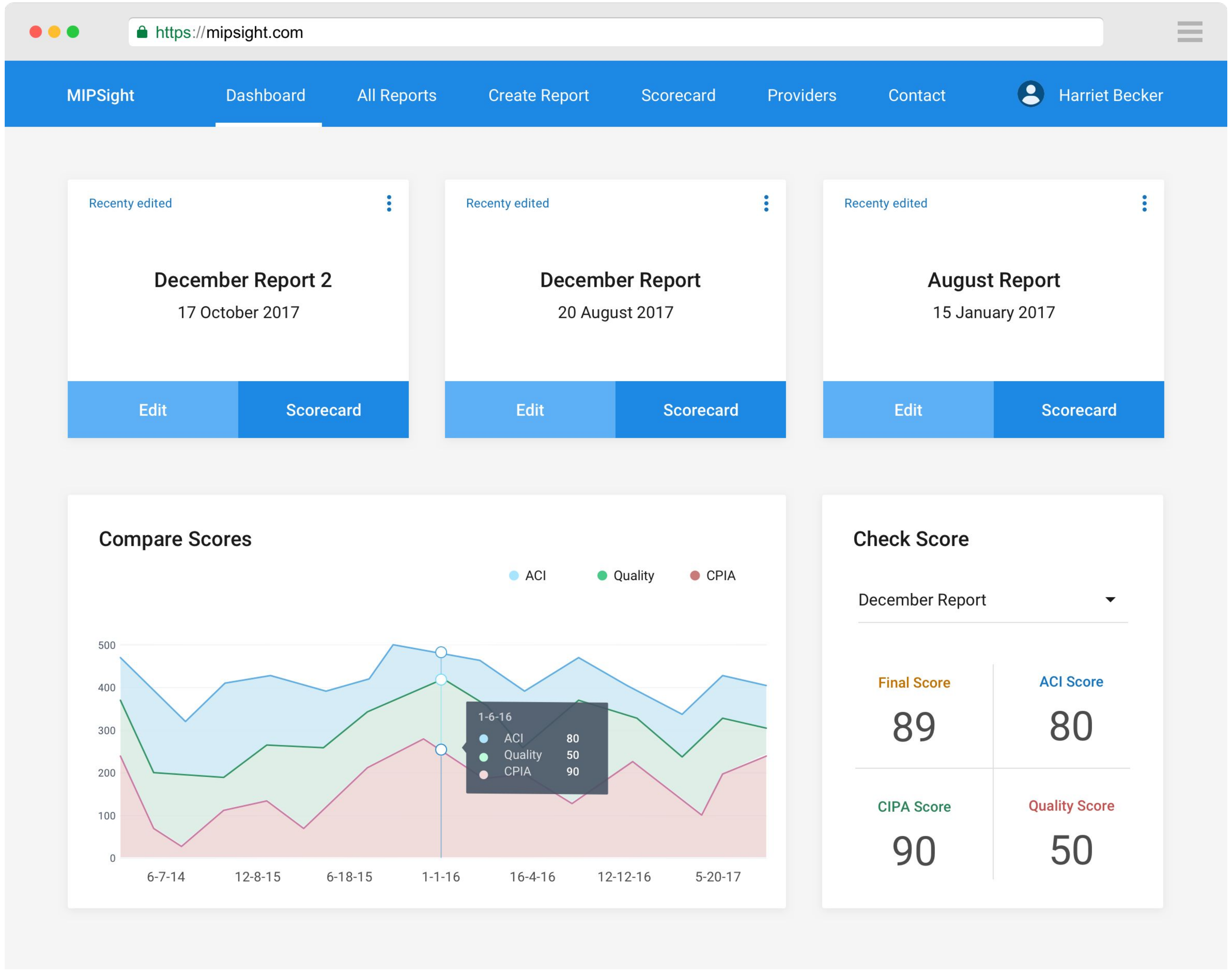


12. Quality Report

HIGH FIDELITY DESIGN

Dashboard

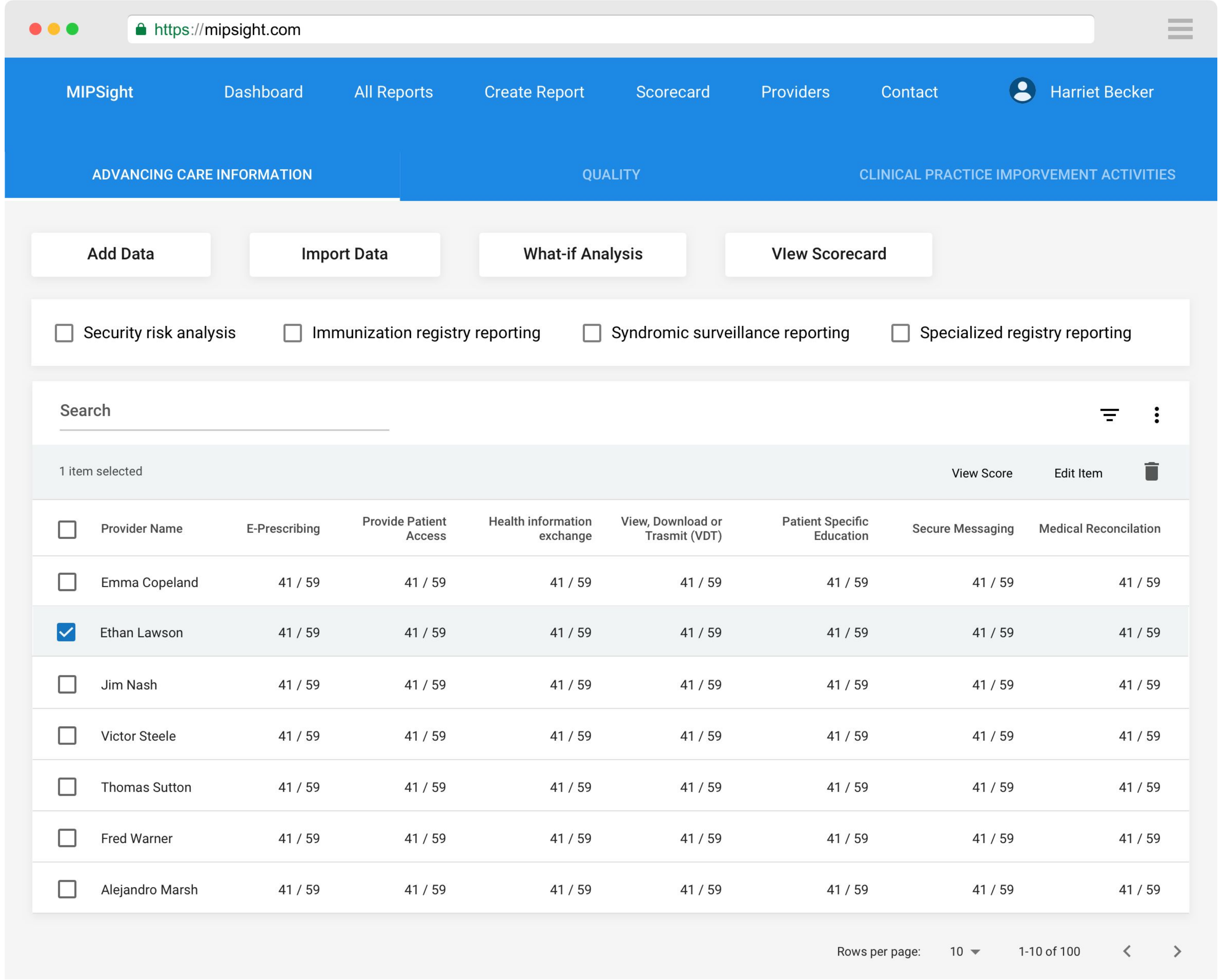
1. View recent reports
2. Edit Report and view scorecards
3. Compare scores from different reports
4. Check scores directly of any report



HIGH FIDELITY DESIGN

View Report

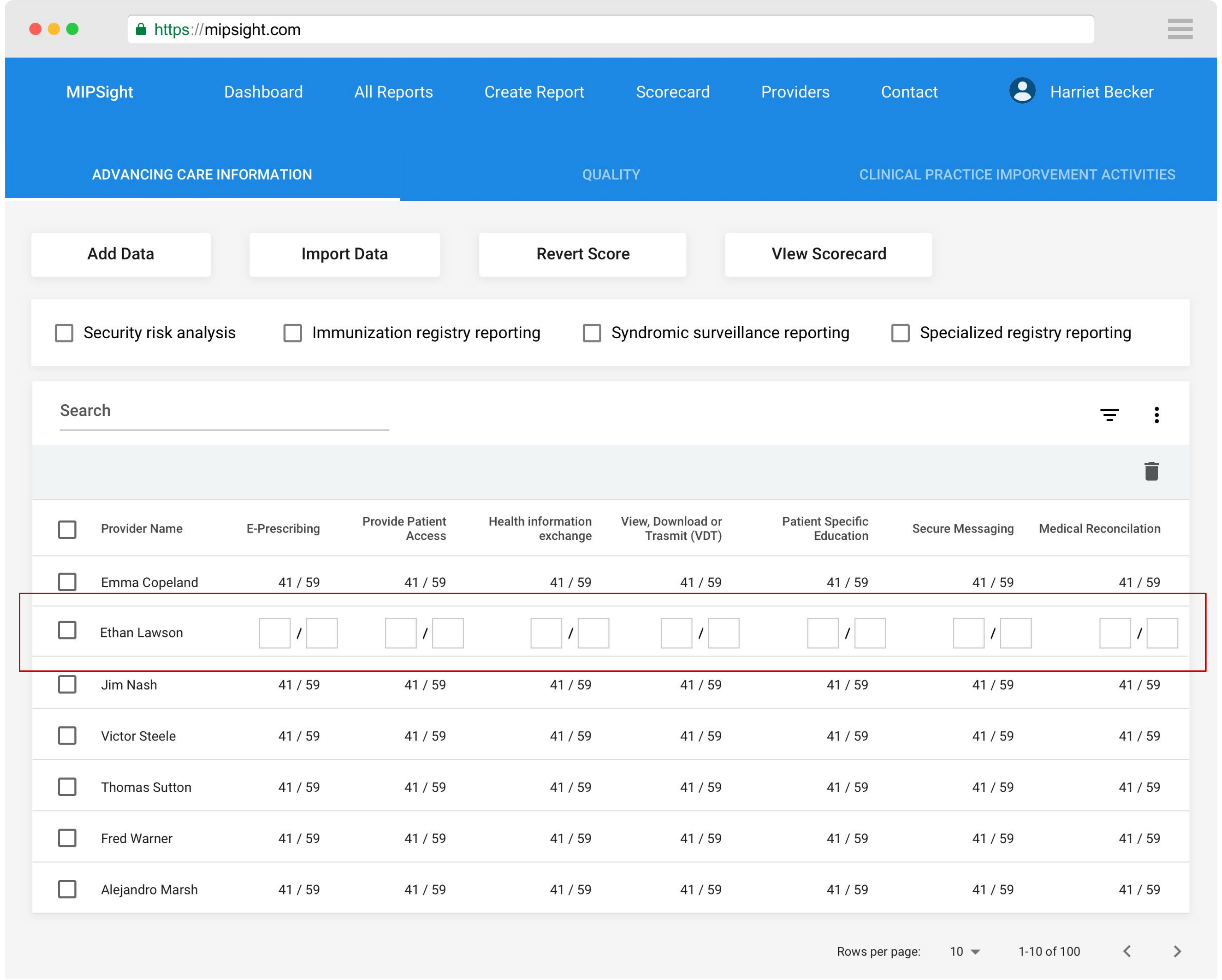
1. Add and import data
2. Search data in tables
3. View scorecards in real time
4. Edit & delete items in table



HIGH FIDELITY DESIGN

What-if Analysis

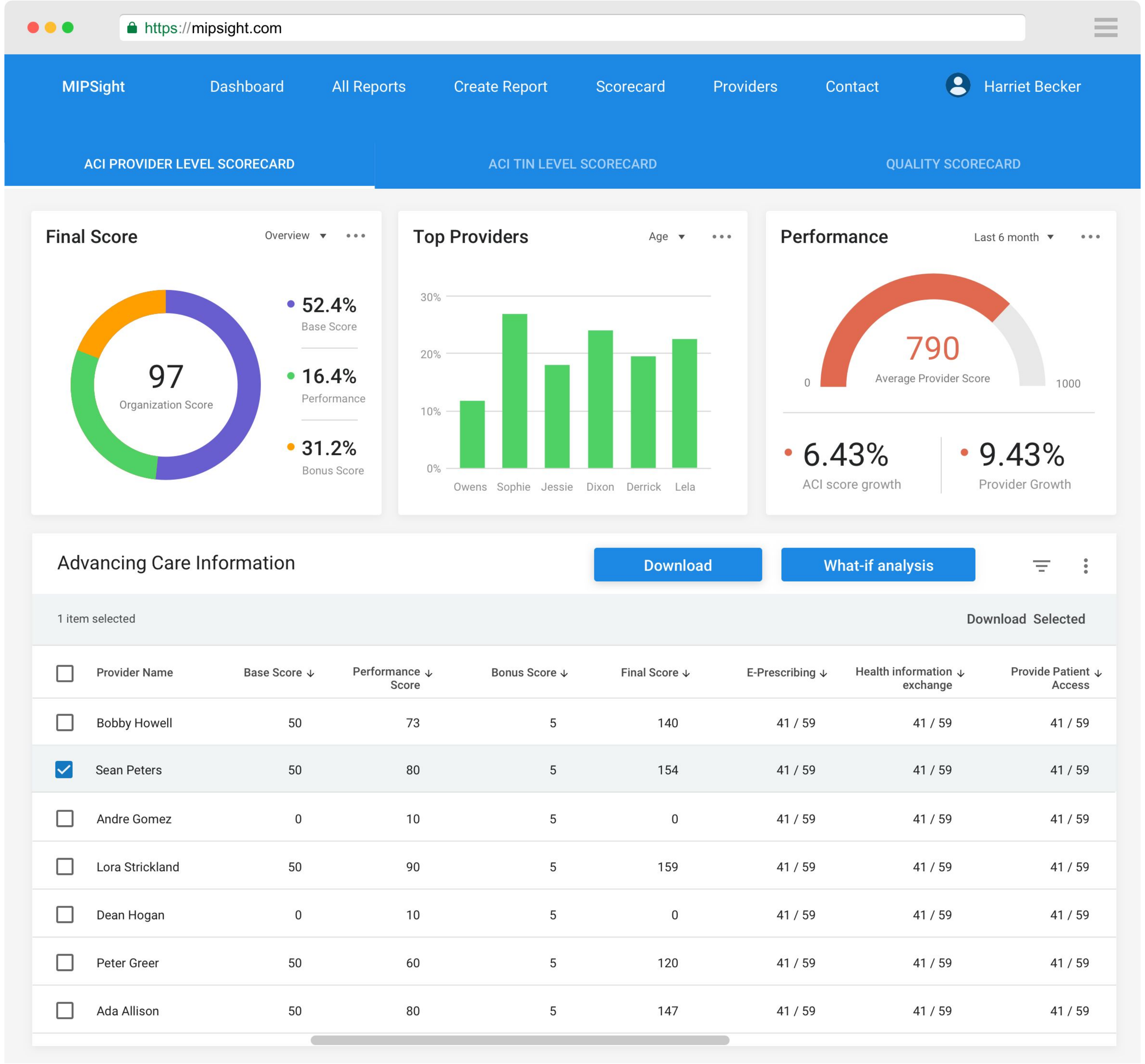
1. Click on any table to make it editable
2. Add any value for numerator & denominator
3. View updated scorecard
4. Revert score to change it back



HIGH FIDELITY DESIGN

Report Scorecard

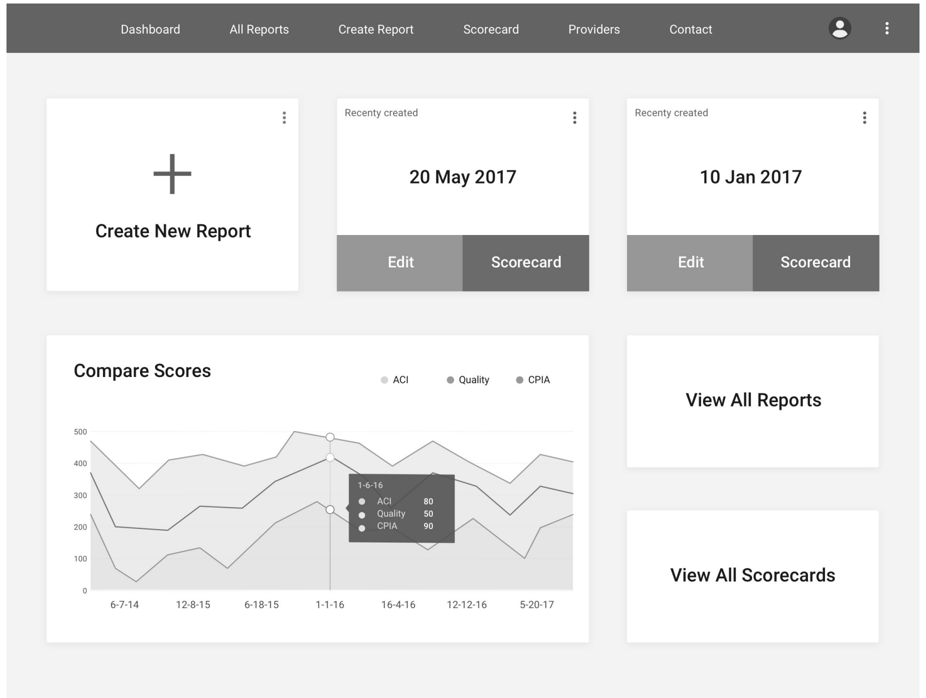
1. Visualization for report scorecard
2. Showing top providers
3. Showing report performance
4. Download report scorecard



ITERATIONS

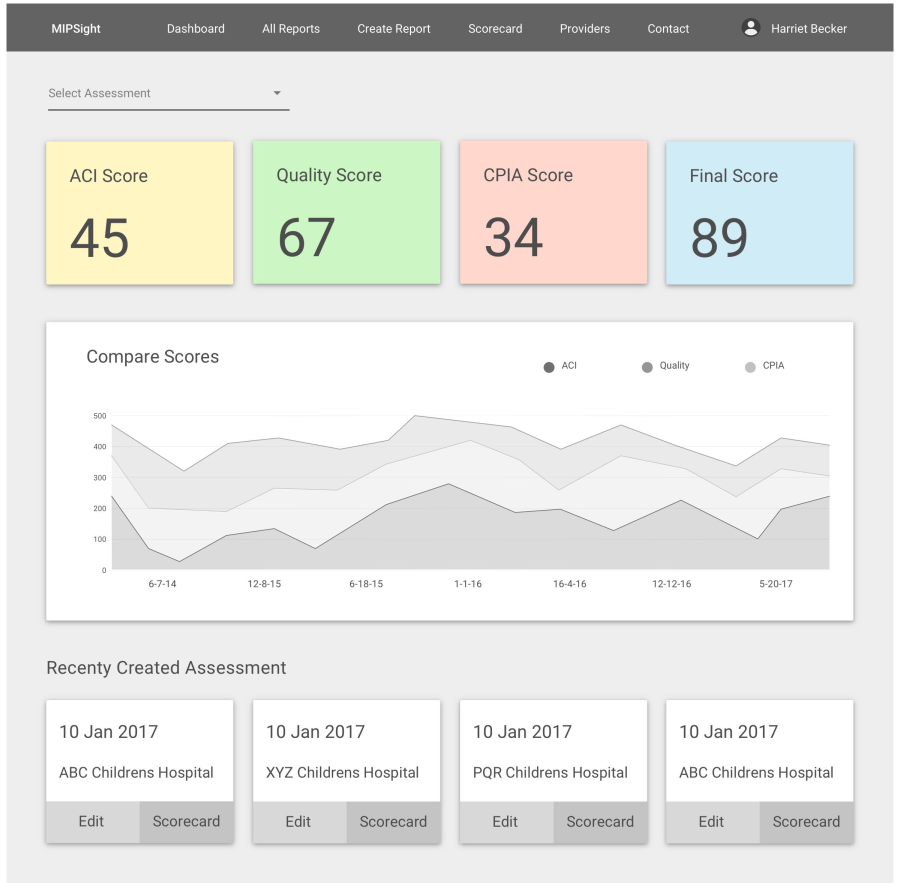
Design Alternatives

Dashboard v1



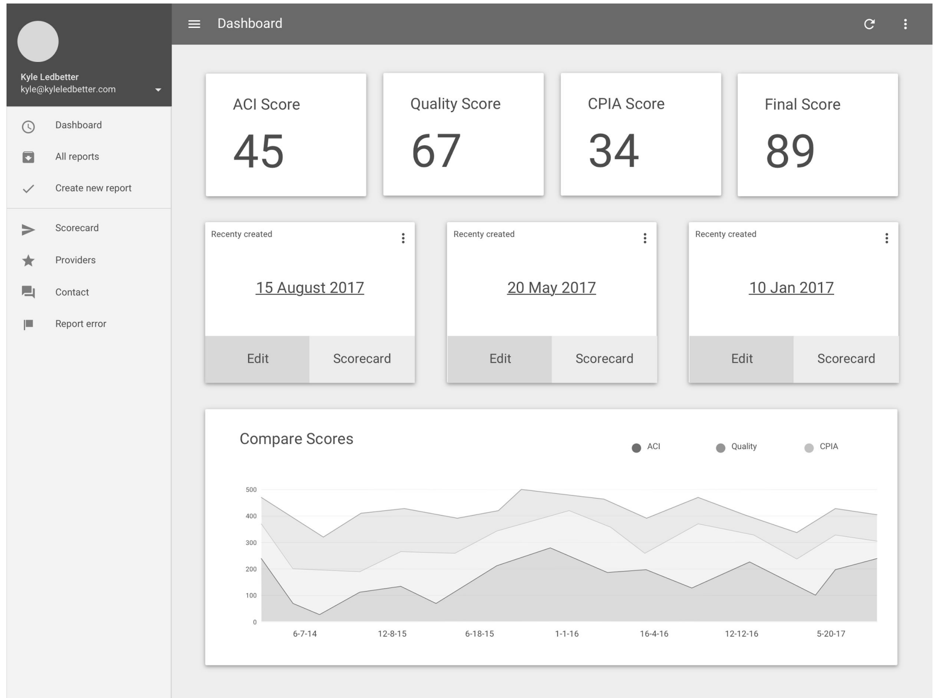
1. Create New Reports Quickly
2. Shortcut to select 2 recent report
3. View scorecard & reports
4. Visualize to compare scores

Dashboard v2



1. Top navigation to increase space
2. Adding more reports to select from
3. Color coding for score status

Dashboard v3

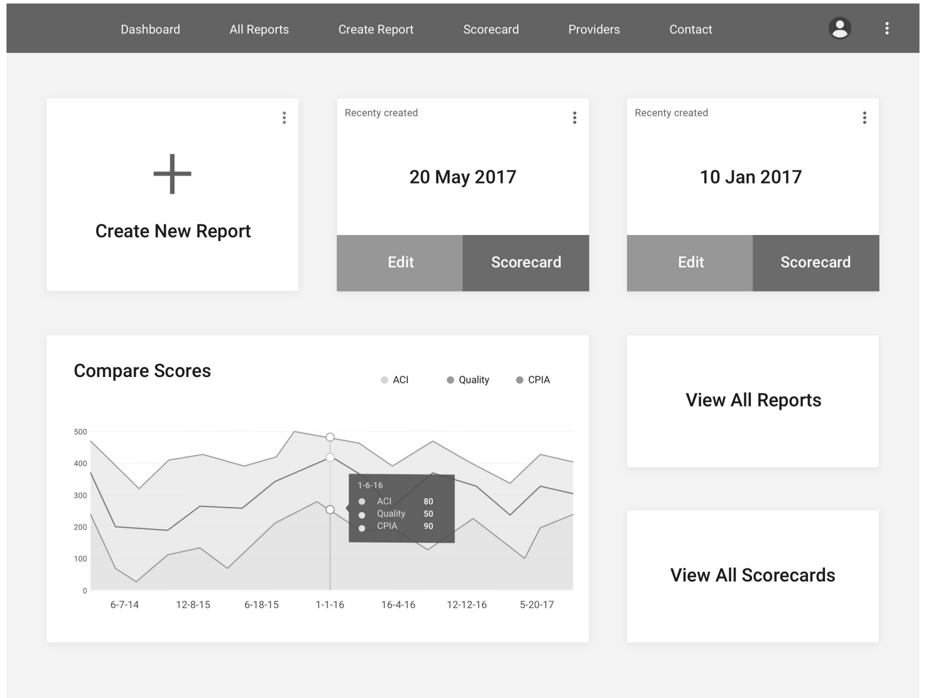


1. Exploring side navigation
2. Showing important stats at top
3. Users can select 3 recent reports

EARLY TESTING

Expert Evaluation

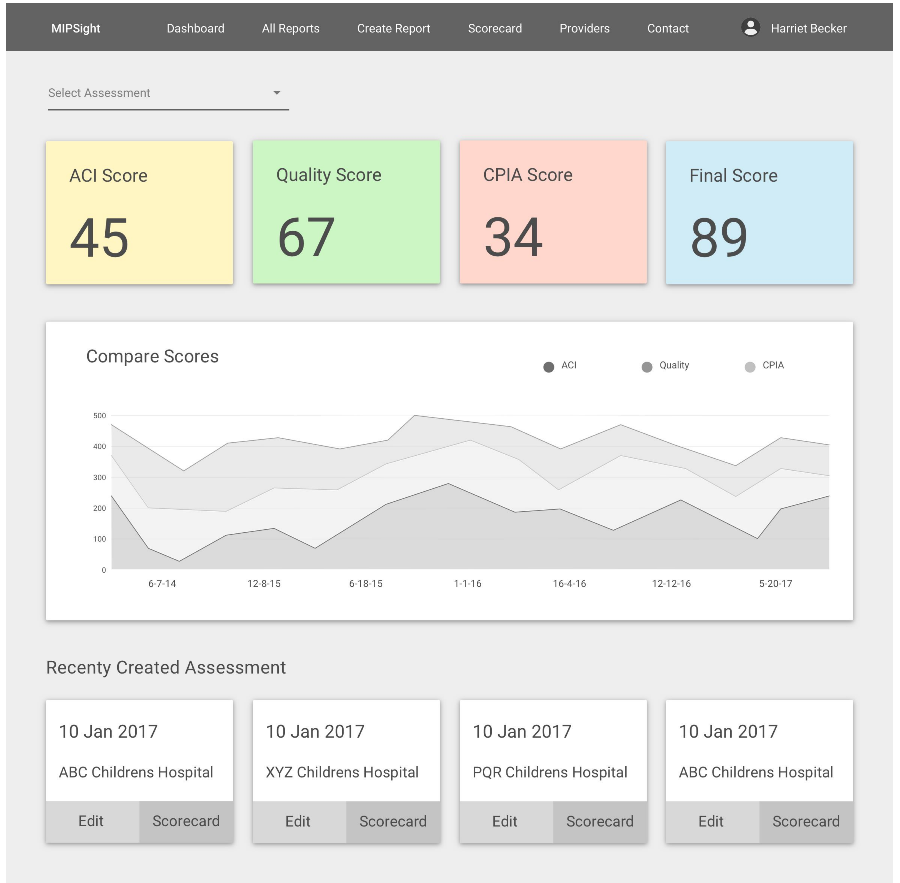
Dashboard v1



ISSUES:

1. Repetitive links and buttons on dashboard
2. Not showing scores of report

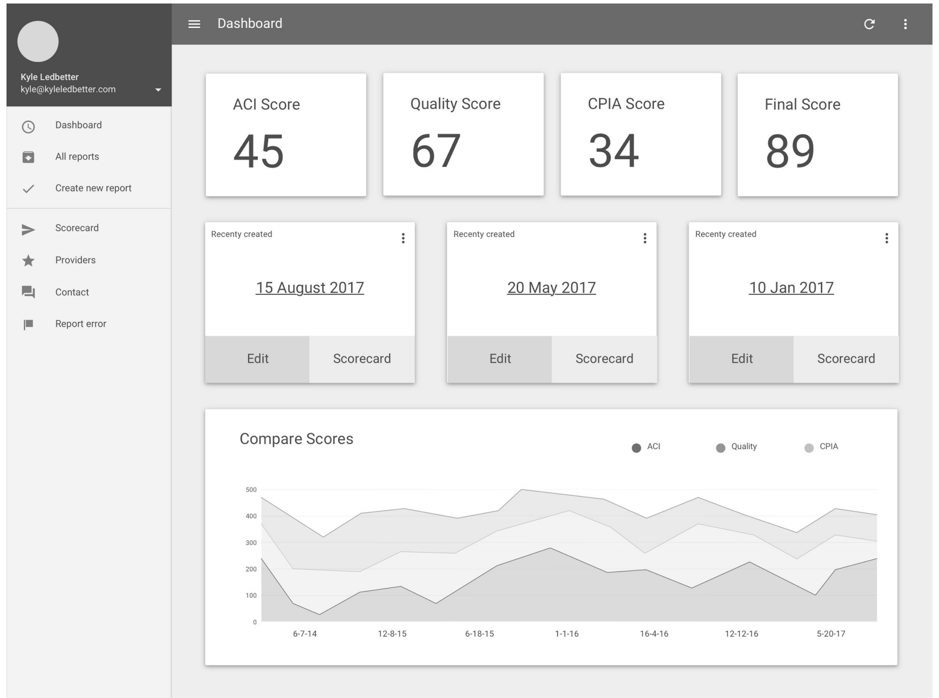
Dashboard v2



ISSUES:

1. Long dashboard page with too much data
2. Users probably switch between 2-3 reports

Dashboard v3



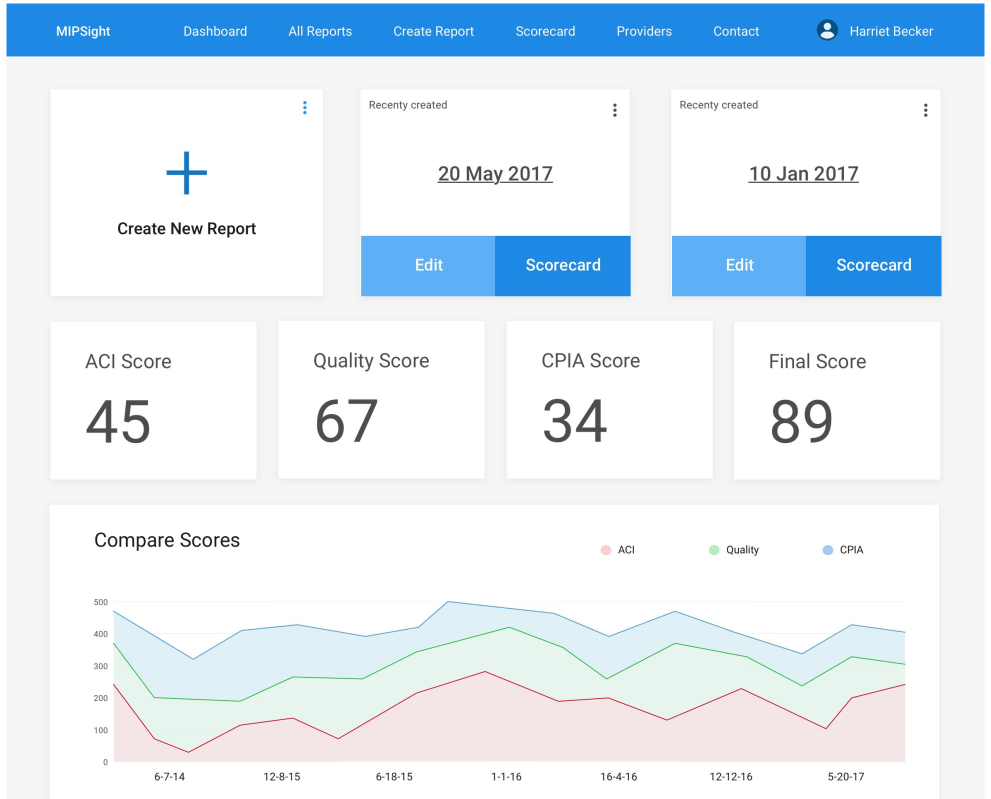
ISSUES:

1. Side navigation leaves less space for long tables
2. Not sure if scores are user’s first priority

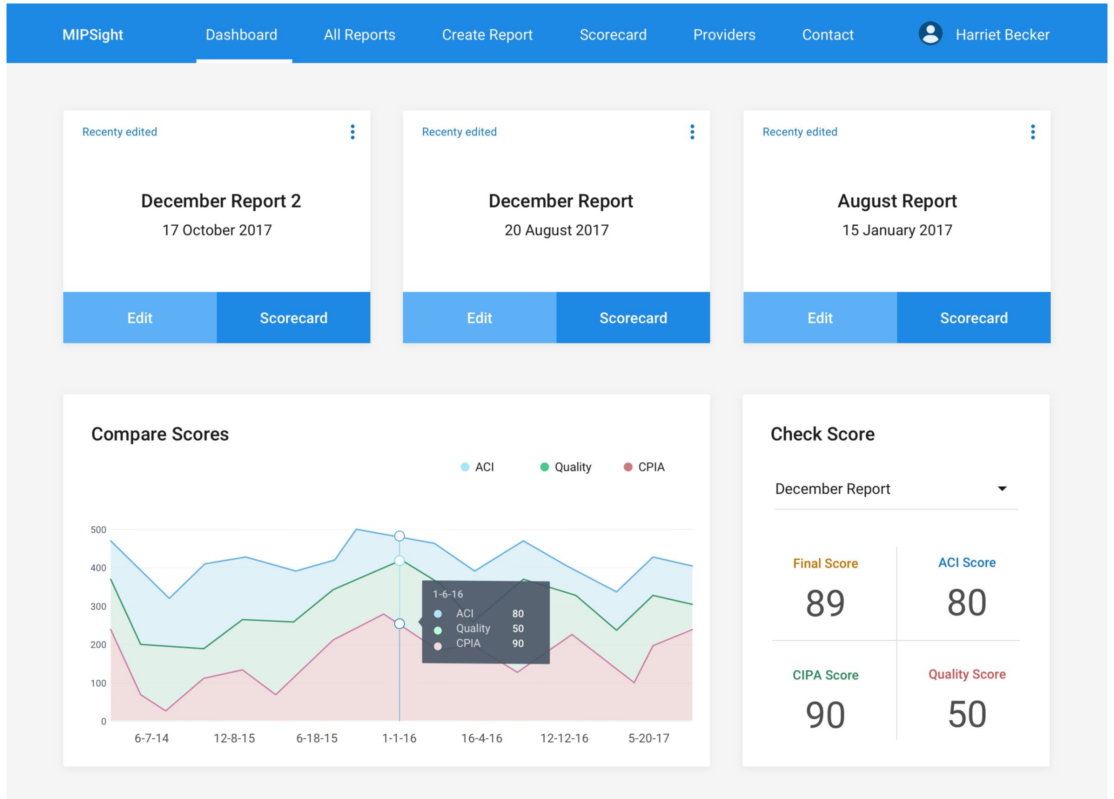
EVALUATION RESULTS

User Testing

Scorecard v4



Scorecard v5



ISSUES:

1. Users getting confused in creating report
2. Users not able to see score for different report
3. Users wanted to name each one with dates

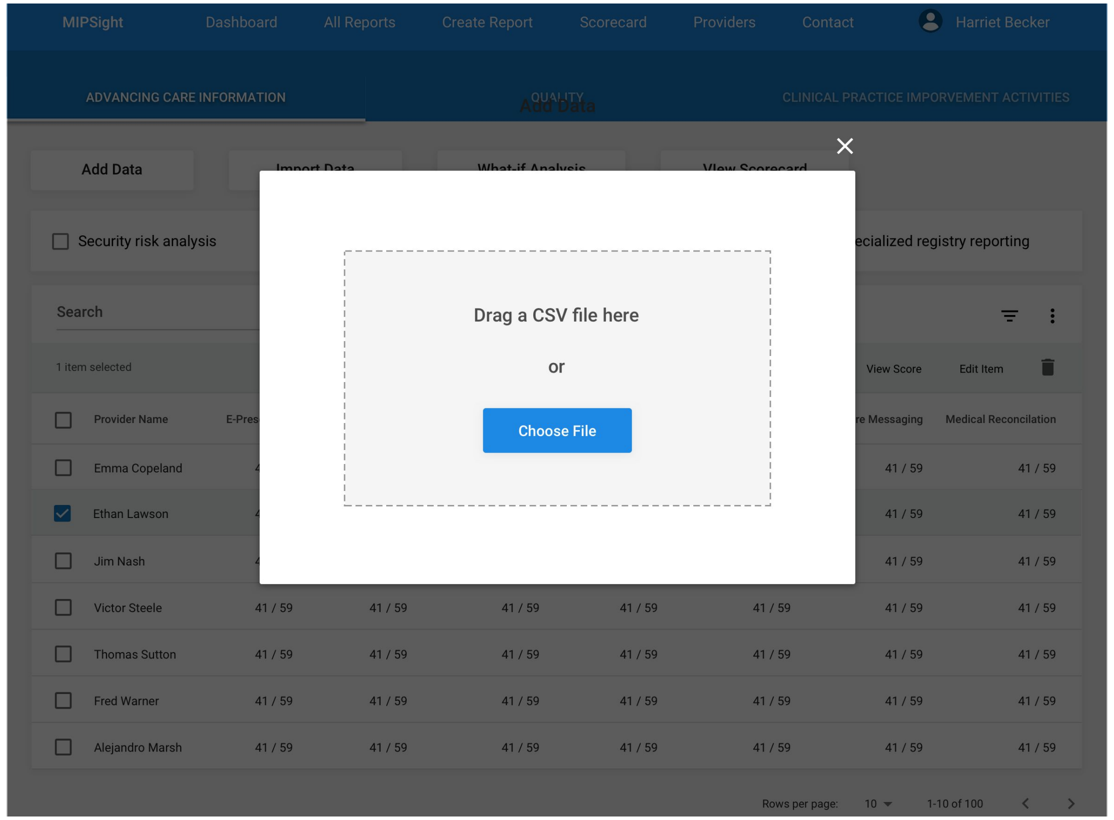
FIXED:

1. Removed Create Report card
2. Option to choose score for any report
3. Added visual cues to make scores understand
4. Added report names with date

EVALUATION RESULTS

User Testing

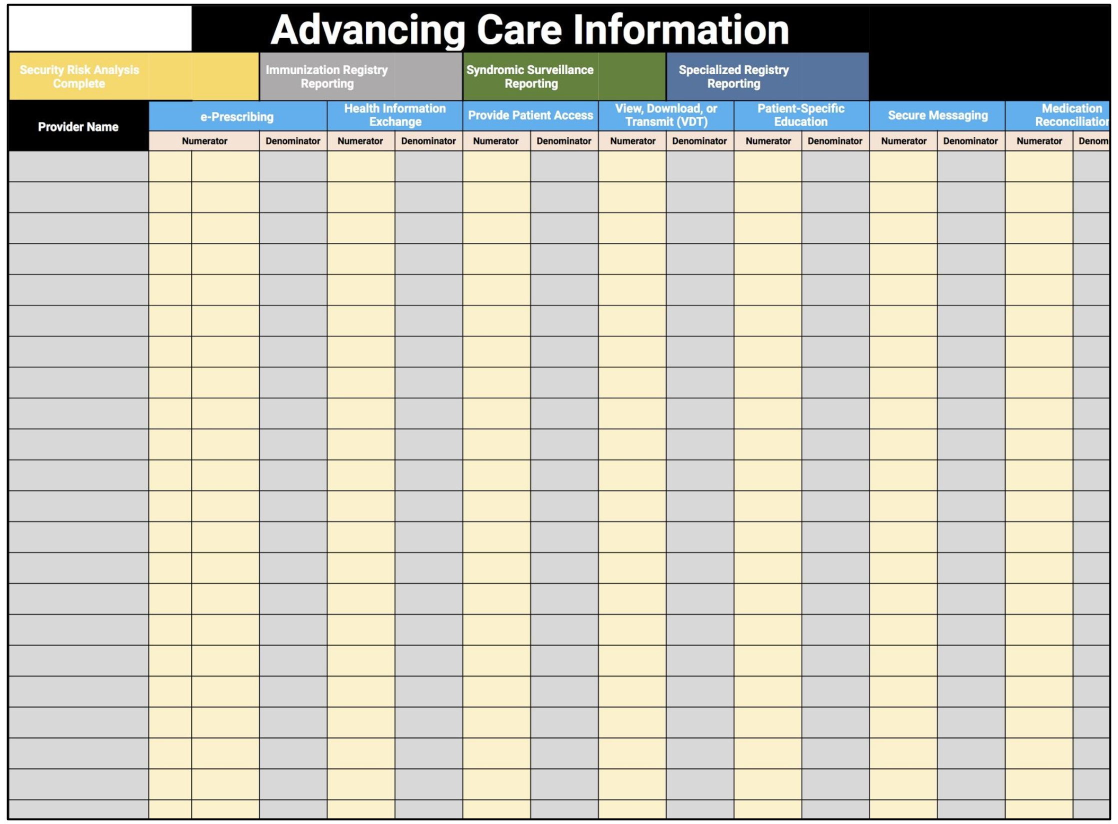
Upload File



ISSUES FOUND:

Users upload unformatted CSV file which created wrong reports & scores

Excel Template



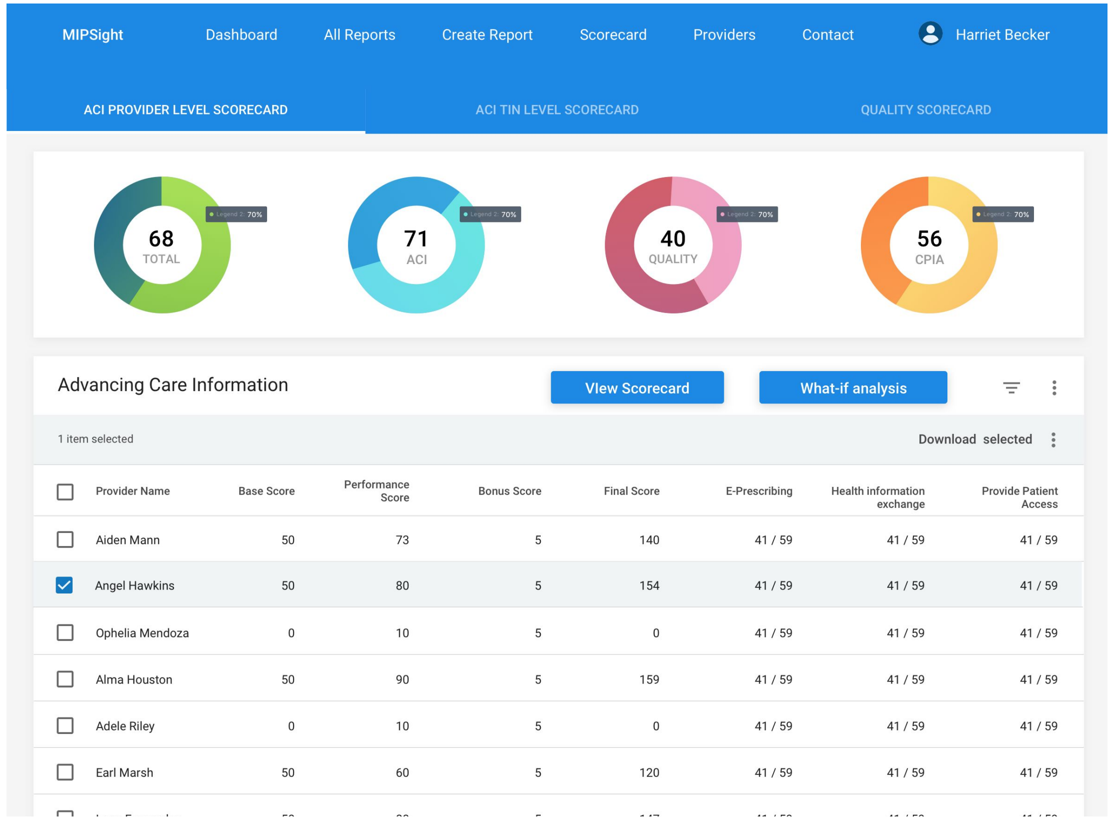
SOLUTION CREATED:

Created a CSV & Excel template to fill and upload existing data

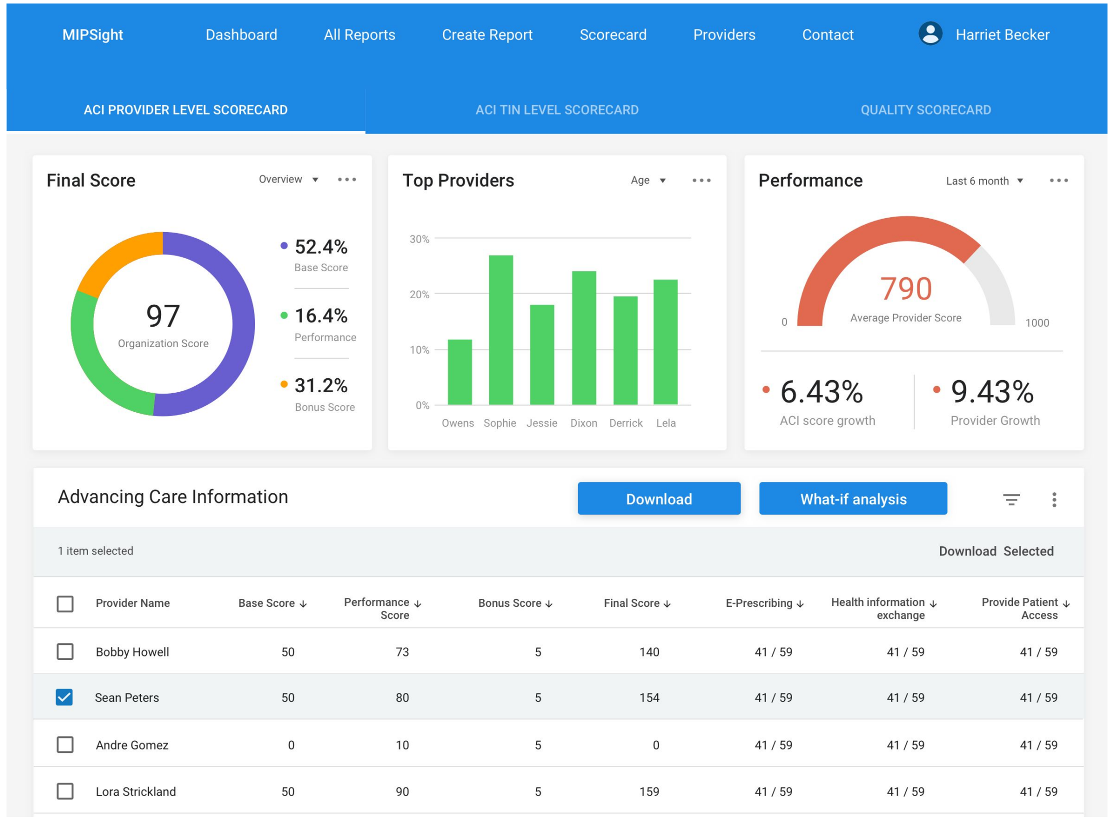
EVALUATION RESULTS

User Testing

Scorecard v1



Scorecard v2



ISSUES:

1. Pie charts not relevant for this data
2. View Scorecard did not imply users could share it
3. Need more visualizations for better analysis

FIXED:

1. Add more relevant visualizations
2. Added option to download CSV file

PRODUCT IMPACT

The Result

Currently used by Quality Improvement Advisors (QIA) to guide **15,000+ clinicians** across universities, health systems and independent provider-practices in five Midwestern states.

Based on the initial feedback from the actual users we are now working on adding some additional functionalities to improve the product.

REFLECTION

Learning

.01

Have a clear scope & problem statement

If the problem framing is not clear, it could lead to an endless churn of design iterations that are not easy to test. Understanding the scope really helps in understanding how broad our design funnel can be, before we dig deep.

.02

Constraints help us focus on what matters

By paying attention to constraints – and working within the creative space they afford us – it's possible to create something slim and functional that users will adopt. Constraints can guide decisions and resolve ambiguity.

.03

Design is a collaborative & team effort

UX is the responsibility of the whole product team, not only the designer. To improve collaboration I learned coding skills, involved developers in testing sessions and engaged them in design process. They often had a better understanding of data, edge cases and other parts that I missed.

.04

Get feedback & test early to find problems

I conducted 2 rounds of testing to ensure we build the right product. Development started only after usability issues were addressed. It helped me to validate assumptions, steer product and design direction more confidently, and uncover hidden issues using actual user feedback.